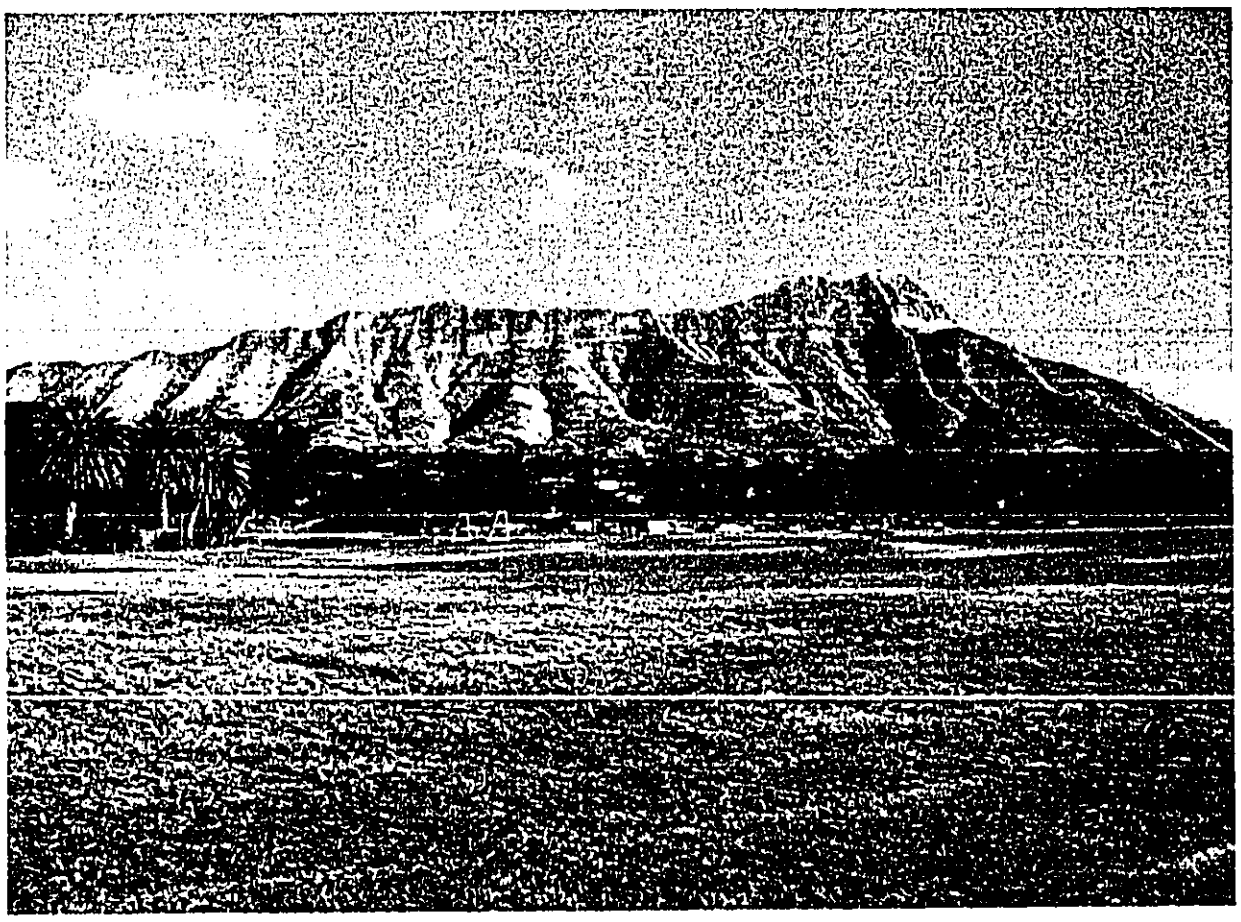
DRAFT ENVIRONMENTAL ASSESSMENT

KAPIOLANI REGIONAL PARK MASTER PLAN UPDATE

Waikiki, District of Honolulu, O'ahu, Hawai'i



Prepared for

Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

May 2007

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KAPIOLANI REGIONAL PARK MASTER PLAN UPDATE

Waikiki, District of Honolulu, Oahu, Hawaii

Prepared in Partial Fulfillment of the Requirements of Chapter 343,
Hawaii Revised Statutes and Hawaii Administrative Rules, Title 11, Chapter 200
Department of Health, State of Hawaii

Prepared for

Department of Design and Construction
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Prepared by

Gerald Park Urban Planner
1221 Kapiolani Boulevard, Suite 211
Honolulu, Hawaii 96814

and

Miyabara Associates
928 Bethel Street, Suite 401
Honolulu, Hawaii 96817

May 2007

SUMMARY INFORMATION

Project:	Kapiolani Regional Park Master Plan Update
Proposing Agency:	Department of Design and Construction City and County of Honolulu 650 South King Street Honolulu, Hawaii 96813
Accepting Authority:	Department of Design and Construction for Mayor, City and County of Honolulu
Tax Map Key:	Various
Land Area:	Approximately 165.75 acres
Land Owner:	State of Hawaii (Approximately (158.104 acres) City and County of Honolulu (Approximately 7.65 acres)
State Land Use:	Urban
Development Plan Area:	Primary Urban Center
DP Land Use Map:	Major Park and Open Space
Zoning:	P-2 General Preservation
Special District:	Diamond Head
Special Management Area:	Within Special Management Area
Cost of Improvements:	$13.5 million (Estimated 2007$)
Need for Assessment:	Hawaii Administrative Rules, Title 11, Chapter 200, §11-200-5(c) Use of state and county lands or funds
Determination:	Anticipated Finding of No Significant Impact
Contact Person:	Terry Hildebrand Department of Design and Construction Facilities Division, Planning Branch City and County of Honolulu 650 South King Street, 9th Floor Honolulu, Hawaii 96813 Telephone: 768-8401

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SECTION 1 DESCRIPTION OF THE PROPOSED ACTION

A. Introduction

The Department of Design and Construction, City and County of Honolulu, has prepared a Master Plan Update ("Master Plan Update" or "Update") for Kapiolani Regional Park ("Park"). The Park is located on the eastern end of Waikiki, Honolulu, Hawaii. It is bounded by Kapahulu Avenue from Kalakaua Avenue to Leahi Avenue on the north, Leahi Avenue to Noela Drive and the *mauka* Park boundary on the east to Poni Moi Road, Poni Moi Road on the south, and east Waikiki Beach on the west. A Location Map and Tax Map are shown in Figures 1 and 2.

The original and common name for the Park is Kapiolani Park (City and County Honolulu, 1983). Kapiolani Park comprises the geographic area generally described above but excluding portions of east Waikiki Beach (primarily Kapiolani and Queen's Surf Beaches). This geographic area comprises the Kapiolani Park Trust boundary which is the area of the Park held in trust by the State of Hawaii.

The Master Plan Update and this environmental assessment use the term Kapiolani Regional Park in their respective titles. The regional boundary includes Kapiolani Park and property that was not part of the original Kapiolani Park but which the City acquired and added to the Park (such as Kapiolani and Queen's Surf Beaches). The Kapiolani Park Trust boundary and Kapiolani Regional Park limits are shown on Figures 3 and 6.

Although situated within the Park boundary, the Honolulu Zoo and the Waikiki Shell are not included in the Master Plan Update and excluded from this environmental assessment. Master plans were previously prepared for the Honolulu Zoo (Brong, 1993) and the Waikiki Shell but are not included in this Update.

B. Objectives of the Kapiolani Regional Park Master Plan Update

The Kapiolani Regional Park Master Plan Update does not propose major changes to the historical theme envisioned by the 1983 Master Plan (City and County of Honolulu) or current types of recreational use. An internally prepared "interim" master plan update was prepared in 1992 by the Department of Parks and Recreation. The "interim" master plan update was never finalized, however, it served as an interim guide to park improvements. The historic theme is still considered appropriate for the Park. This Update recommends improvements for upgrading recreation facilities and areas, enhancing the aesthetics of the Park and the neighborhood, improving circulation and parking, and complying with current regulatory requirements. The goal of the proposed improvements is to make the Park experience more "user-friendly", safer, and accessible for all who visit and recreate at this green jewel.

C. Technical Characteristics

Recommended improvements are described below and depicted in Figure 3, Kapiolani Regional Park Master Plan Update (Miyabara Associates, 2006). With the exception of the

new entrance to the Honolulu Zoo, detailed plans for the improvements have not been prepared.

1. Honolulu Zoo Entrance

A new entrance building is proposed for the Honolulu Zoo. The proposed single-story building will be constructed on the *maka*i side of the Zoo parking lot fronting Kapahulu Avenue. Space in the 2,500 square foot structure will be allocated for ticketing operations, public restrooms, a gift shop, and rentals (for example, rental strollers and umbrellas).

The existing entrance building will not be demolished. The building will be converted into a visitor center and house restroom facilities for Zoo patrons.

The grassy, tree shaded lawn fronting the entry to the Honolulu Zoo will be redesigned to accommodate wider walkways (6 to 10 feet wide) from Kalakaua Avenue, Kapahulu Avenue, and the Zoo parking lot. Parts of the walkway will be adorned with overhead trellises. An existing information kiosk at the corner of Kalakaua and Kapahulu Avenues will be demolished. New signage will be erected in its place identifying the Honolulu Zoo and Kapiolani Regional Park. A preliminary Site Plan is shown in Figure 4 (Urban Works, No Date).

The new entry building, walkways, and integrated signage will improve visibility of and accessibility into the Zoo.

2. Walkways Widening

Existing concrete walkways on the *mauka* side of Kalakaua Avenue and the Diamond Head side of Monsarrat Avenue are proposed to be widened a minimum of 8-feet for multi-use. The existing sidewalk is too narrow to accommodate more than two persons (a 3-foot wide sidewalk can only reasonably accommodate 1 person) side-by-side. Users have to veer off the walk to allow approaching users to pass. The walkway does not meet Americans with Disabilities Act (ADA") standards for outdoor recreation areas.

The final walkway design should consider its alignment and alternative paving materials. New area lighting is proposed with light fixtures matching the existing decorative standards.

3. Replace Softball Field

The existing softball field, commonly referred to as "Elks Field", located near the Dillingham Fountain, is proposed to be replaced by open lawn, trees, and additional picnic areas.

4. Modify Existing Softball Fields

Three existing softball fields form a partial cloverleaf pattern in the central area of the Park. Field 1 should be modified by moving home plate and the right field line and Field 3 should be modifed by moving the entire field. The exact adjustments needed should be determined during the design stage. No changes are proposed for Field 2. The modifications will allow portable or temporary backstops to be put into place for player and park user safety.

5. Accessibility Improvements

One of the objectives of the Master Plan Update is to ensure that all areas and facilities in the Park are fully accessible. This is to be accomplished by new improvements and modifying existing infrastructure to meet ADA requirements.

6. Bicycle and Moped Parking

Off-street parking areas for bicycles and mopeds are proposed to be placed at selected locations. The parking areas consist of an approximately 400 square foot (20' X 20') paved parking surface with security racks. These areas are proposed in support of the Honolulu Bicycle Master Plan which identifies regional bike routes around the Park. These routes include existing bike paths along Kapahulu Avenue and Paki Avenue and a bicycle lane along Kalakaua Avenue.

7. Underground Overhead Utilities

Overhead utility systems detract from the visual quality of the Park. Although interior areas of the Park are free of overhead utilities, existing lines and poles are common along the major roadways and in some parking areas.

It is recommended that overhead utility lines along Kalakaua Avenue, Monsarrat Avenue, and Paki Avenue be routed underground. Views of the Park, Diamond Head, Waikiki Beach, and residential areas around the Park will be improved by removing the aerial clutter.

8. Paki Avenue Improvements

Paki Avenue is one of the important circulation and access ways within the Park. It also serves as a major regional route for vehicle traffic between Ala Wai Boulevard and Diamond Head Road. In spite of its heavy use by park users and outlying residents, it remains the only major park road in substandard condition along most of its length.

The Master Plan recommends reconstructing Paki Avenue between Poni Moi Street and Monsarrat Avenue. The travelway should be widened and clearly defined by improvements at the road edge. Raised curbs are typical, but alternative design treatments should be considered in the final design.

Parallel parking would be allowed on the *makai* side of the road and diagonal parking on the *mauka* side where feasible. Some on-street parking will be lost due to the proposed improvements and by banning illegal parking. All on-street parking areas will be clearly striped. The recommended parking arrangement aids in protecting the existing street trees and their root systems from damage.

Overhead utilities should be placed underground within the project limits.

The existing shared walkway should be 10-12 feet in width and realigned further away from the road and on-street parking where feasible and necessary. The walkway should connect with the new walkway improvements on Kalakaua and Monsarrat Avenues.

Existing trees shall remain unless they are dead, dying, or diseased in which case they should be replaced. New street trees should be planted to supplement the existing stock where space is available.

9. Reconstruct Parking Lot

A small, 48-stall parking lot adjoining the Park maintenance buildings (*makai* of Paki Hale) is proposed to be reconstructed. Drainage improvements are necessary to ameliorate ground settlement in the parking lot which is creating an undulating surface and potential safety hazard.

This parking lot may be expanded to make up for the loss of some on-street parking along Paki Avenue. The two existing detached structures---a maintenance building (with public restrooms) and a storage shed---are proposed to be demolished. A replacement comfort station is also proposed to serve Park users.

10. Acquire Residential Lots

As a long-term strategy, the Master Plan Update proposes acquiring the few remaining residential lots between Paki and Leahi Avenues. Acquiring these lots would be consistent with previous Master Plan recommendations.

11. Renovate Maintenance Baseyard Facility

The existing Maintenance Baseyard Facility located between Paki and Lehua Avenues near the fire station is in need of repair and renovation. The use of the facility will remain for park maintenance purposes only. The existing structure, however, particularly the exterior façade, has been cited as having possible historic significance, although it is not currently listed on the Hawaii or National Register of Historic Places and may need to be preserved or otherwise integrated into any renovation plans. It was designed by Harry Sims Bent the architect who is noted for park architecture at Ala Moana Beach Park and may become eligible for historic status.

D. Land Tenure

Title to portions of Kapiolani Regional Park is held by the State of Hawaii in trust for the maintenance of a public park. By Executive Order No. 22 dated July 1, 1913, the State of Hawaii transferred operational management of the Park to the City and County of Honolulu. The Department of Parks and Recreation, City and County of Honolulu is currently responsible for Park operations and maintenance. The Department of Enterprise Services, City and County of Honolulu, operates the Honolulu Zoo and Waikiki Shell.

Kapiolani Regional Park comprises approximately 165.75 acres including the Honolulu Zoo and Waikiki Shell. The Kapiolani Park Trustees are the members of the Honolulu City Council.

The City and County of Honolulu owns approximately 7.65 acres of the Park including Kapiolani Beach, Queen's Surf Beach and lots along Paki Avenue.

E. Economic Characteristics

The cost for implementing the recommended improvements is estimated at $ 13.5 million (2007$) and will be borne by the City and County of Honolulu. Projected costs associated with the respective improvement are shown below.

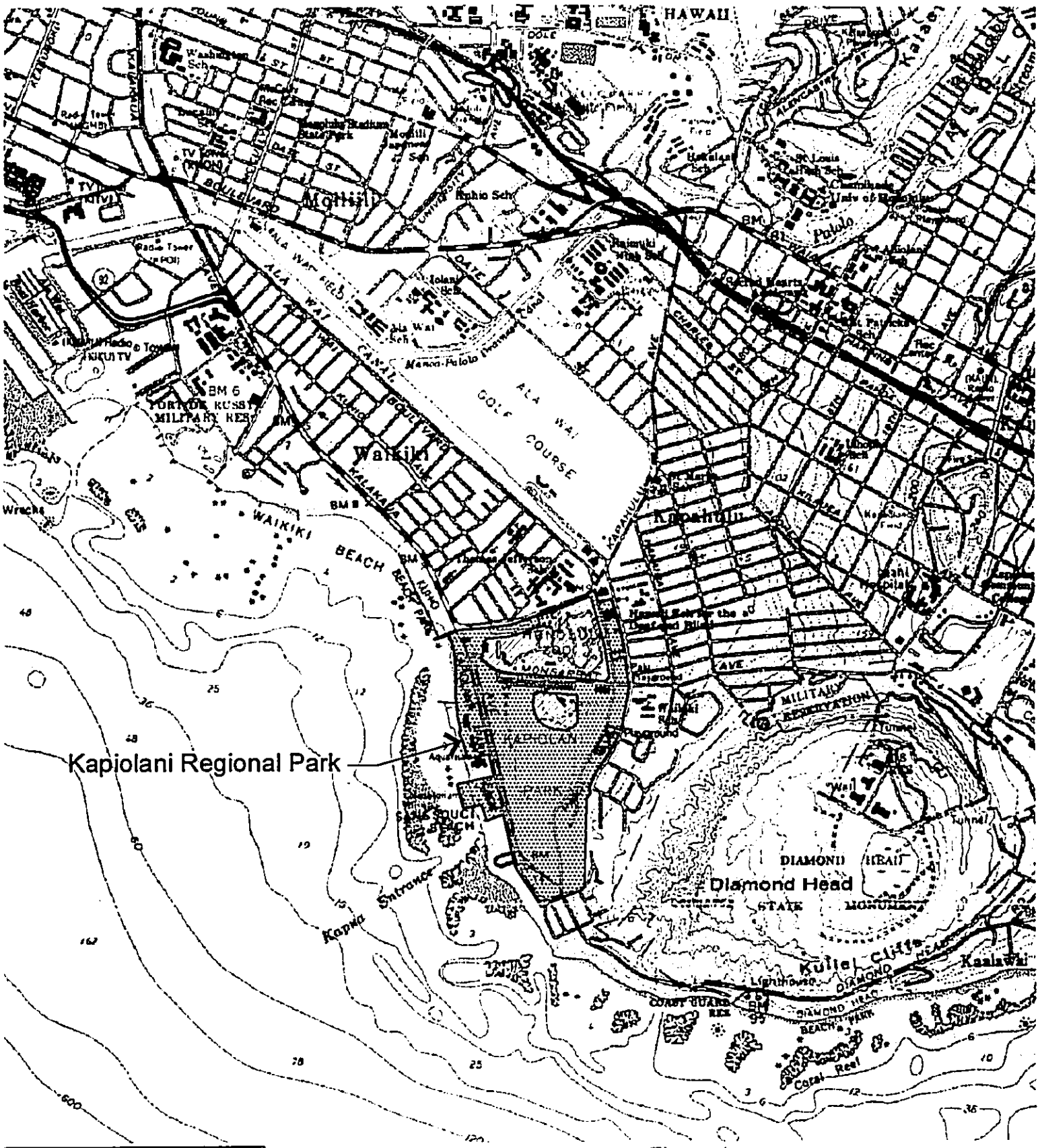
Honolulu Zoo Entrance	$3,000,000.00
Walkways Widening	700,000.00
Replace Elks Softball Field	150,000.00
Modify Existing Softball Fields	150,000.00
Accessibility Improvements	450,000.00
Bicycle/Moped Parking	300,000.00
Underground Utilities	5,500,000.00
Paki Avenue Improvements	1,500,000.00
Reconstruct Parking Lot	750,000.00
Acquire Residential Lots	(TBD by market appraisal)
Renovate Maintenance Baseyard Facility	1,000,000.00
Total:	**$ 13,500,000.00**

There is neither a phasing schedule proposed at this time nor any funds specifically earmarked for Kapiolani Regional Park Improvements, except for the Honolulu Zoo entrance. Implementation will depend solely on available future funding and Capital Improvements Program budgeting.

F. Social Characteristics

Some recreational activities will be permanently displaced by the recommended improvements. For example, the Elks Softball Field will give way to additional open space and picnic areas and some of the open space fronting the Honolulu Zoo will give way to a new Zoo entrance. Expanding the parking lot near Paki Hale will not displace recreational uses (primarily soccer fields) in the area.

Some recreational activities will be temporarily displaced during construction. For example, the walkway along Kalakaua Avenue will be closed and a temporary walkway constructed for pedestrian use. The temporary walkway will be removed when the reconstructed walkway is reopened.



Source: USGS, Honolulu Quadrangle

Figure 1
Location Map

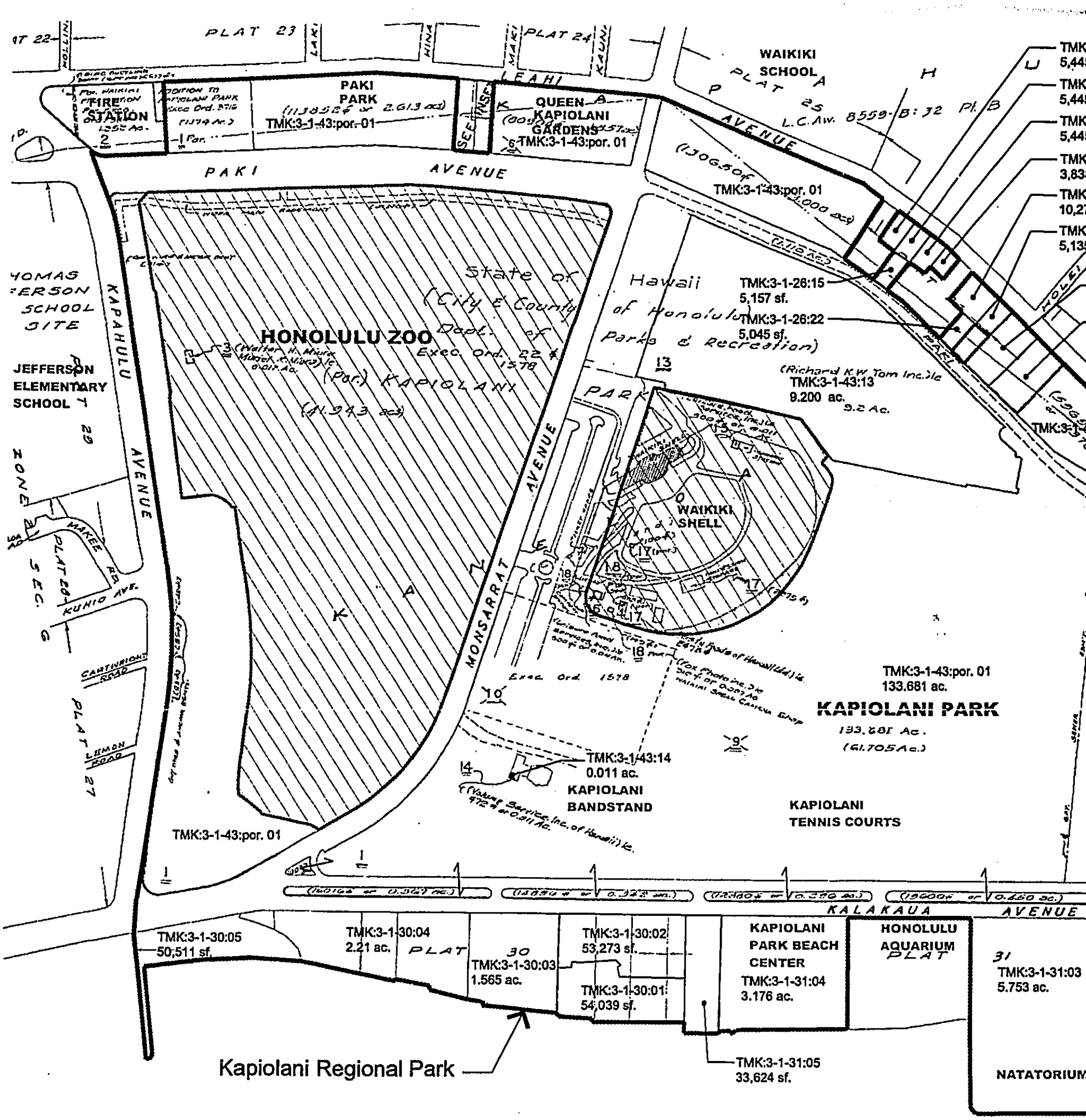
Kapiolani Regional Park Master Plan Update

City & County of Honolulu — Waikiki, Island of Oahu

NORTH

LINEAL SCALE (FEET)
1000 500 0 500 1000 2000

Gerald Park
Urban Planner
January 2007


PLAT 23
PLAT 24
LEAHI
PAKI AVENUE
PAKI PARK
TMK:3-1-43:por. 01
FIRE STATION
QUEEN KAPIOLANI GARDENS
TMK:3-1-43:por. 01
WAIKIKI SCHOOL
PLAT 25
L.C.Aw. 8559:B:32 Pl. B
TMK:3-1-43:por. 01
1.000 acq
HONOLULU ZOO
Exec. Ord. 1578
(Por.) KAPIOLANI
(41.943 acs)
State of Hawaii (City & County of Honolulu Dept. of Parks & Recreation)
TMK:3-1-26:15
5,157 sf.
TMK:3-1-26:22
5,045 sf.
(Richard K.W. Tom Inc.)Le
TMK:3-1-43:13
9.200 ac.
9.2 Ac.
WAIKIKI SHELL
THOMAS JEFFERSON SCHOOL SITE
JEFFERSON ELEMENTARY SCHOOL
KAPAHULU AVENUE
MAKEE RD.
KUHIO AVE.
CANTONMENT ROAD
LEMON ROAD
PLAT 27
MONSARRAT
Exec. Ord. 1578
TMK:3-1-43:14
0.011 ac.
KAPIOLANI BANDSTAND
TMK:3-1-43:por. 01
133.681 ac.
KAPIOLANI PARK
133.681 Ac.
(61.705Ac.)
KAPIOLANI TENNIS COURTS
KALAKAUA AVENUE
TMK:3-1-30:05
50,511 sf.
TMK:3-1-30:04
2.21 ac.
PLAT 30
TMK:3-1-30:03
1.565 ac.
TMK:3-1-30:02
53,273 sf.
TMK:3-1-30:01
54,039 sf.
KAPIOLANI PARK BEACH CENTER
TMK:3-1-31:04
3.176 ac.
HONOLULU AQUARIUM PLAT
31
TMK:3-1-31:03
5.753 ac.
TMK:3-1-31:05
33,624 sf.
NATATORIUM
Kapiolani Regional Park

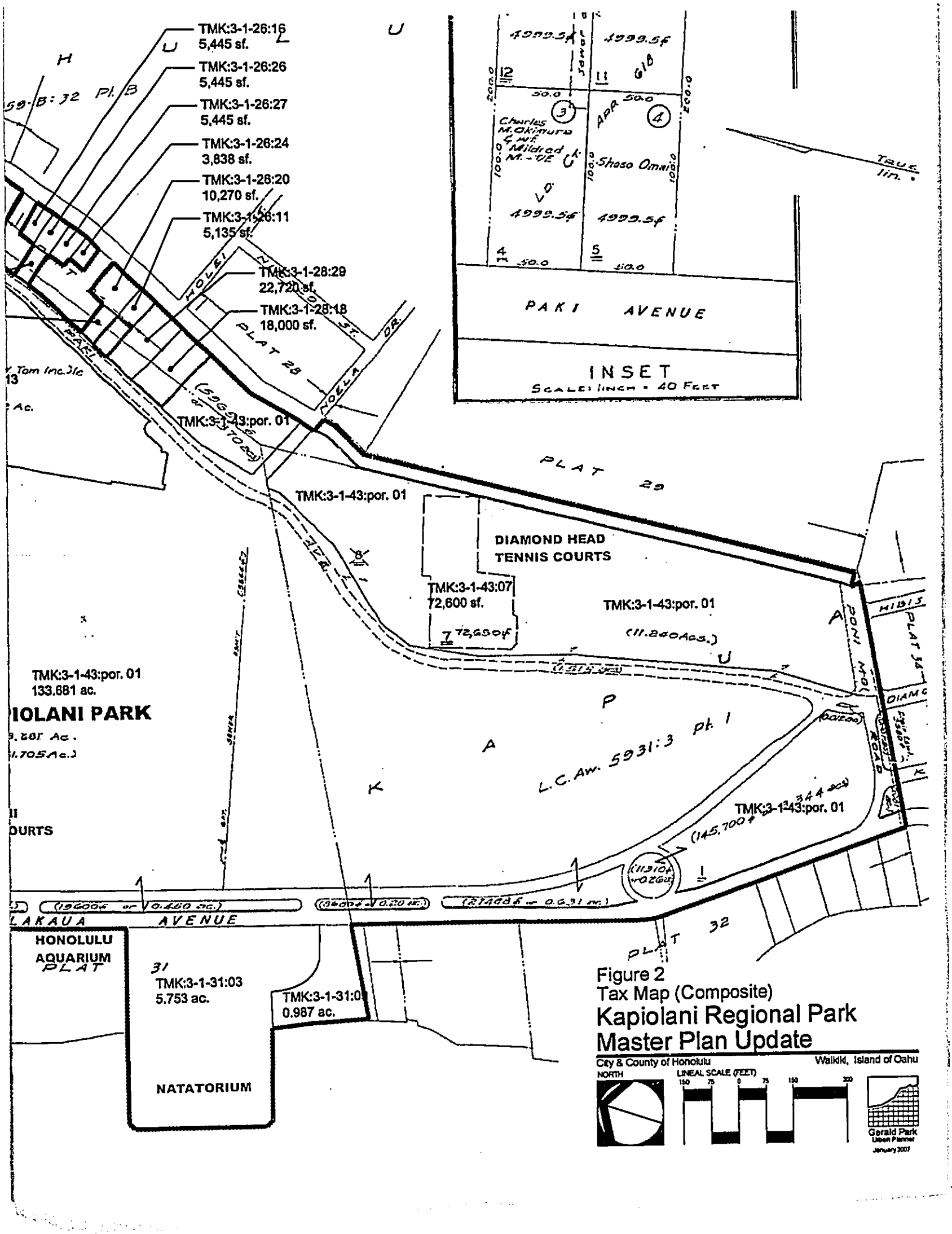


Figure 2
Tax Map (Composite)
Kapiolani Regional Park Master Plan Update
City & County of Honolulu — Waikiki, Island of Oahu
NORTH
LINEAL SCALE (FEET) 150 75 0 75 150 300
Gerald Park, Urban Planner
January 2007

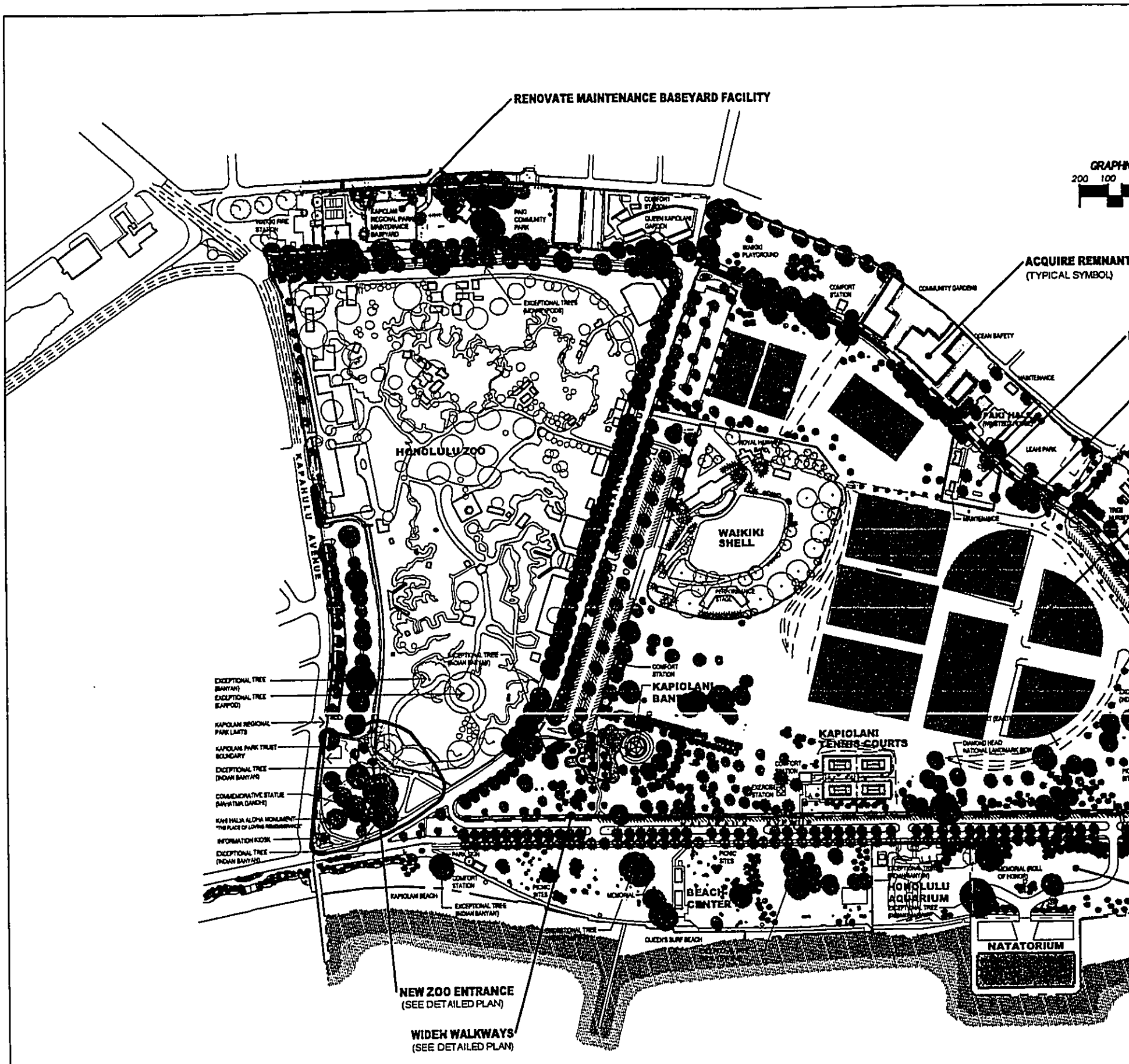


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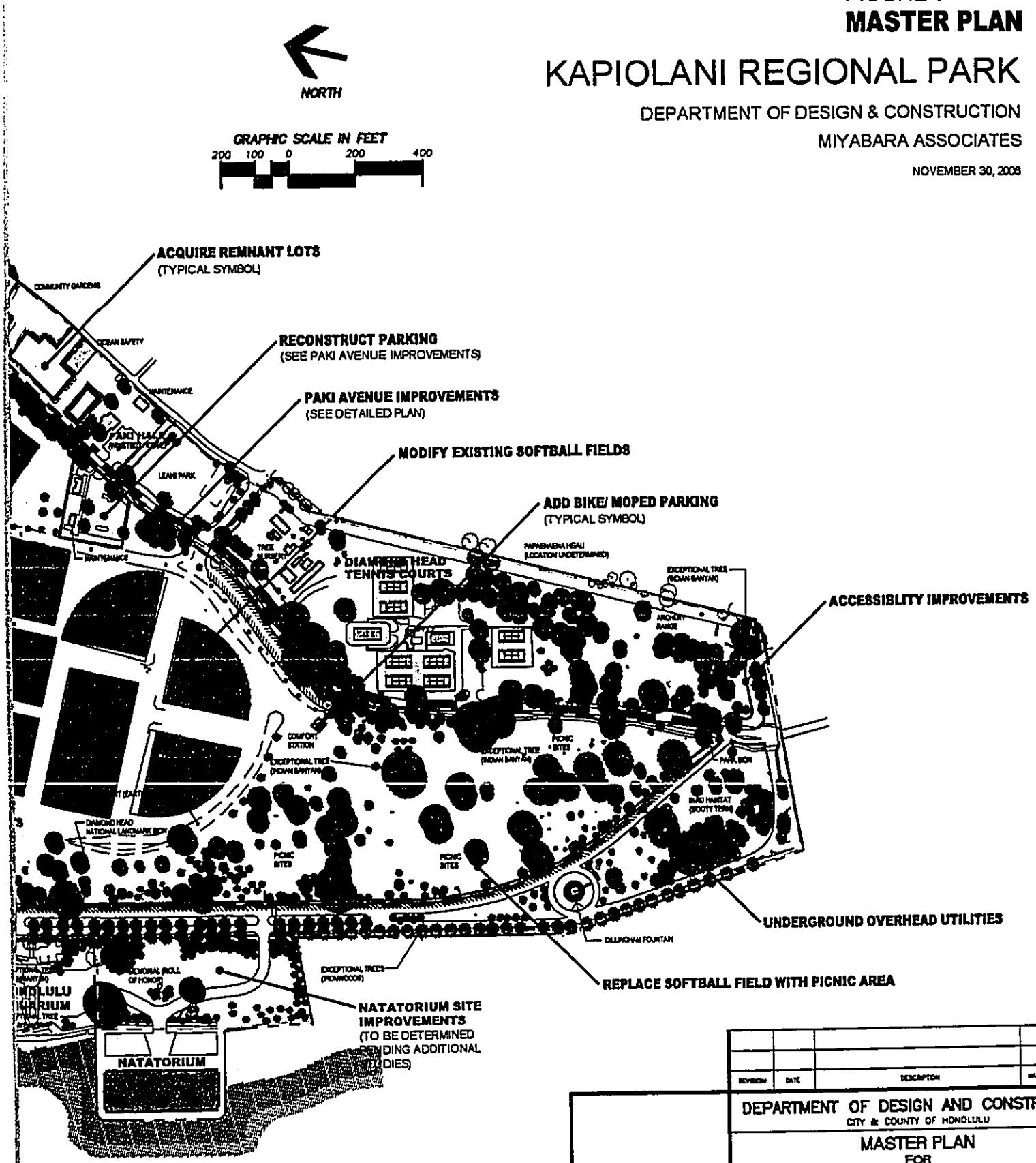
FIGURE 3
MASTER PLAN

KAPIOLANI REGIONAL PARK

DEPARTMENT OF DESIGN & CONSTRUCTION
MIYABARA ASSOCIATES
NOVEMBER 30, 2006



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU

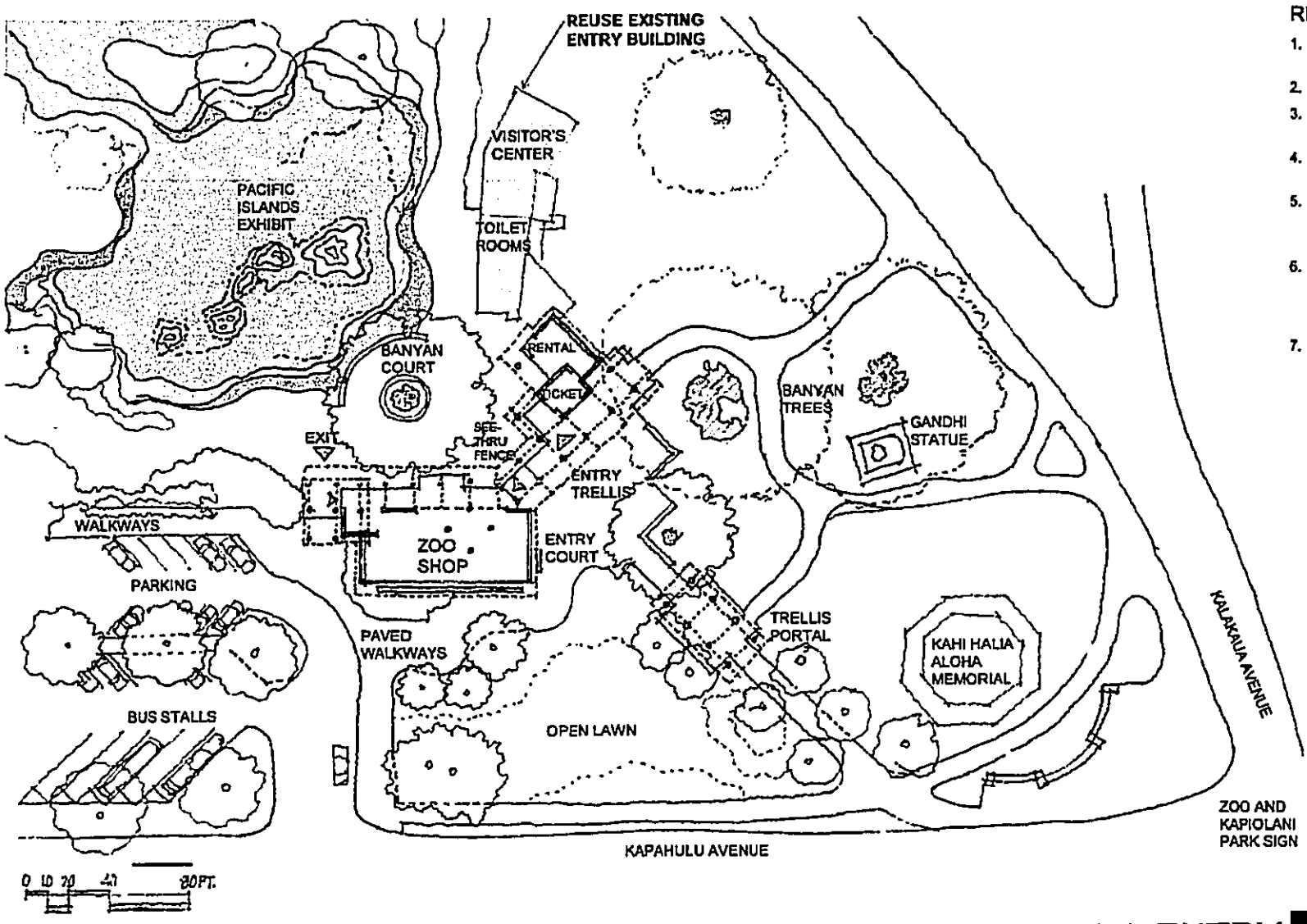
MASTER PLAN
FOR
KAPIOLANI REGIONAL PARK
MASTER PLAN UPDATE
HONOLULU, OAHU, HAWAII
TAX MAP KEY: 3-1-48

APPROVED

Director, Department of Design and Construction — Date

CONCUR

Director, Department of Parks and Recreation — Date



REMARKS

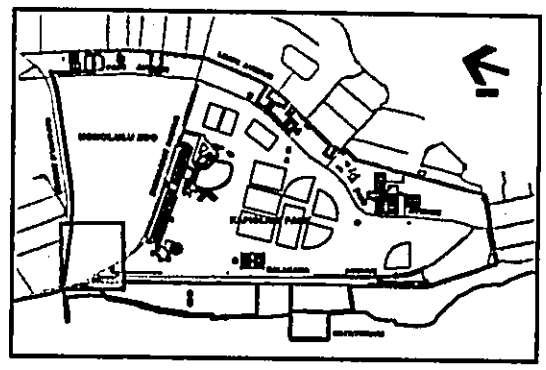
1. ZOO SHOP IS LOCATED AD THE PARKING LOT.
2. EXITING IS BY THE GIFT SH
3. ENTRY COURT IS ORIENTE KALAKAUA-KAPAHULU AVE
4. FENCE ENCLOSURE PROVI GLIMPSES INTO THE ZOO.
5. EXISTING BANYAN TREE PR SHADE AND FOCAL POINT BANYAN COURT.
6. REUSE EXISTING ENTRY BU FOR TOILET ROOMS, VISITO AND SUPPORT SPACES. M ALTERATION TO FRONT FA
7. REMOVE WAIKIKI INFORMA AND REPLACE WITH ZOO/K PARK SIGN.

HONOLULU ZOO ENTRY SITE PLAN

Urban Works

ZOO ENTRY - TYPICAL IMPROVEMENTS

APPROXIMATE SCALE - 1"=80'-0"



KEY MAP

GRAPHIC SCALE IN FEET

REMARKS

1. ZOO SHOP IS LOCATED ADJACENT TO THE PARKING LOT.
2. EXITING IS BY THE GIFT SHOP.
3. ENTRY COURT IS ORIENTED TOWARD KALAKAUA-KAPAHULU AVENUES.
4. FENCE ENCLOSURE PROVIDES GLIMPSES INTO THE ZOO.
5. EXISTING BANYAN TREE PROVIDES SHADE AND FOCAL POINT FOR INSIDE BANYAN COURT.
6. REUSE EXISTING ENTRY BUILDING FOR TOILET ROOMS, VISITOR CENTER, AND SUPPORT SPACES. MINIMAL ALTERATION TO FRONT FACADE.
7. REMOVE WAIKIKI INFORMATION KIOSK AND REPLACE WITH ZOO/KAPIOLANI PARK SIGN.

FIGURE 4

ZOO ENTRY IMPROVEMENTS

- **NEW ENTRANCE**
- **NEW ZOO SHOP**
- **NEW RESTROOMS**
- **ENTRY COURT**
- **REALIGNED WALKWAYS**
- **REMOVE EXISTING INFORMATION KIOSK**
- **NEW ZOO AND PARK SIGN**

KALAKAUA AVENUE

ZOO AND KAPIOLANI PARK SIGN

NTRY
PLAN

Urban Works

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DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU

ZOO ENTRY IMPROVEMENTS
FOR
KAPIOLANI REGIONAL PARK
MASTER PLAN UPDATE

HONOLULU, OAHU, HAWAII
TAX MAP KEY: 3-1-48

APPROVED

Director, Department of Design and Construction — Date

CONCUR

Director, Department of Parks and Recreation — Date

SECTION 2 DESCRIPTION OF THE AFFECTED ENVIRONMENT

A. Existing Conditions

Situated on flat coastal land between the foot of Diamond Head and Waikiki Beach, Kapiolani Regional Park is one of the significant recreational and open space resources in the City and County of Honolulu. Few persons would dispute the contention that the Park is well used. On any day of the week, from dawn to dusk and into the evening, a myriad of activities take place at the Park. Be it walking, jogging, bicycling, kite flying, listening to concerts at the Waikiki Bandstand (or Waikiki Shell), playing organized sports and activities or free play, picnicking, sunbathing, swimming, sleeping under the trees, participating in cultural activities and special events (such as Sunset on the Beach), the Park is a "landscape of leisure" for residents and visitors.

The Department of Parks and Recreation ("DPR") estimates 3.0 million people recreate at or visit the Park annually.

This estimate is based in part on DPR and sponsors estimates as to the number of users (performers, participants, or spectators) at group events held during the year. Most events are scheduled on a Saturday or Sunday and in some instances, both days. In general, the events are held annually and include long and short-distance runs (e.g. the Honolulu Marathon, Val Nolasco Fun Run), charity walks and runs (Visitor Industry Charity Walk), ethnic festivals (Okinawan, Korean, Puerto Rican, Filipino), musical festivals and celebrations (Ukulele, May Day), parades (Kamehameha Day), and special events.

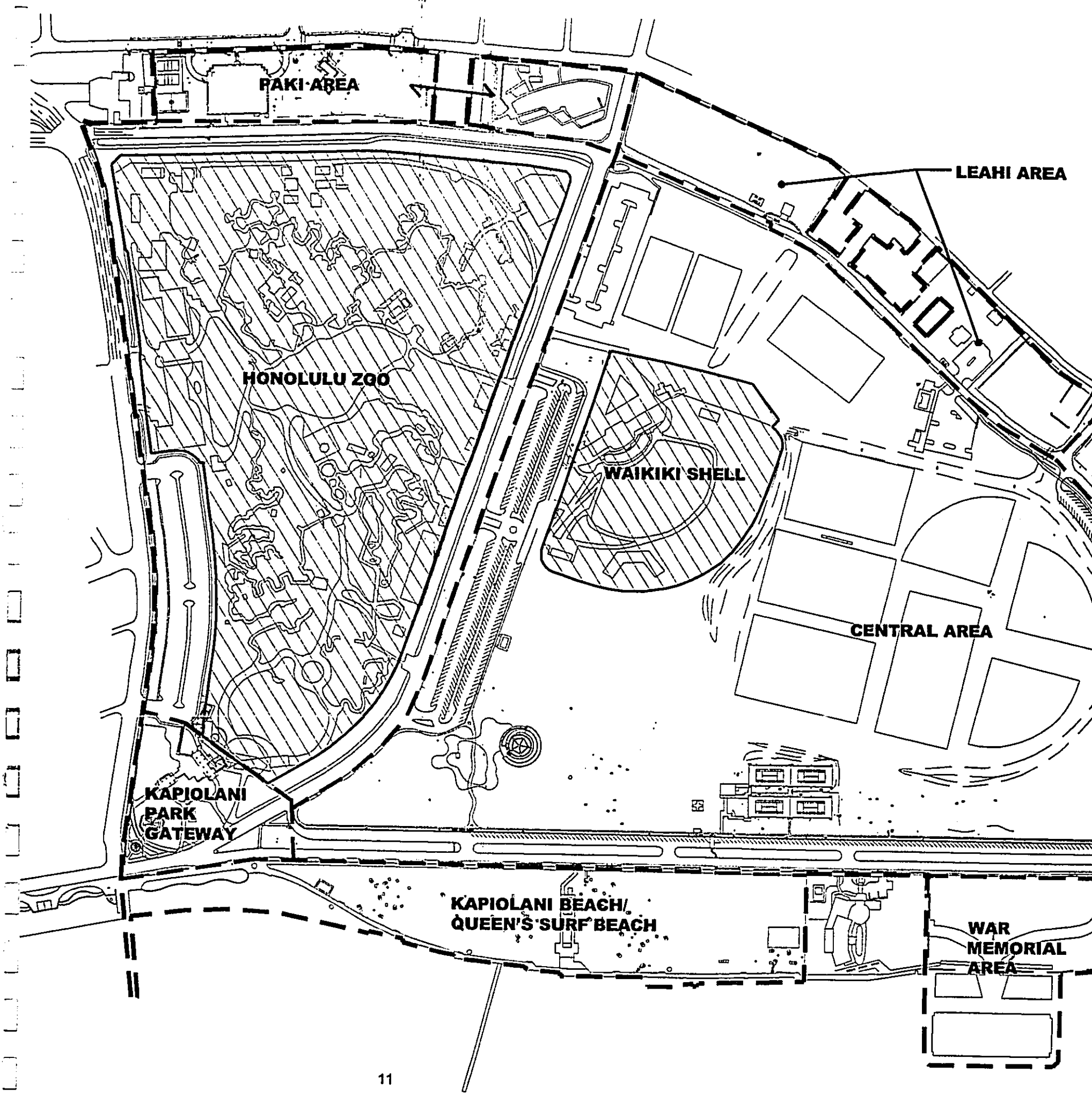
The Waikiki 2000 Kapiolani Park Master Design Plan (City and County of Honolulu, 1983) separated the Park into areas to facilitate the planning, design, and placement of new facilities. A brief description of each area is presented below and shown on Figure 5. Existing Park conditions are shown on Figure 6. The area references are intended only to facilitate an orderly description of the diverse areas making up the Park. The description moves in a counter clockwise direction beginning from Kapiolani Park Gateway.

Kapiolani Park Gateway

The corner of Kalakaua Avenue and Kapahulu Avenue is highly visible to pedestrians and motorists and the thousands of residents and visitors daily. Because of its proximity to the entrance to the Honolulu Zoo, the gateway appears to be a landscaped entry for the zoo rather than Kapiolani Park *per se*. The area is grassed with broad canopy trees offering shade for picnicking and passive recreation.

There is an information kiosk positioned at the tip of the intersection that provides directions and information about Waikiki. Behind the kiosk, a low-rise mound surrounded by a wrought iron fence rises above the ground. Named Kāhi Hāli'a Aloha (The Place of Loving Remembrance), the feature memorializes *iwi kupuna* or human remains.

Several Exceptional Trees are planted in this area and protected by City ordinance. A statue


PAKI AREA
LEAHI AREA
HONOLULU ZOO
WAIKIKI SHELL
CENTRAL AREA
KAPIOLANI PARK GATEWAY
KAPIOLANI BEACH/ QUEEN'S SURF BEACH
WAR MEMORIAL AREA

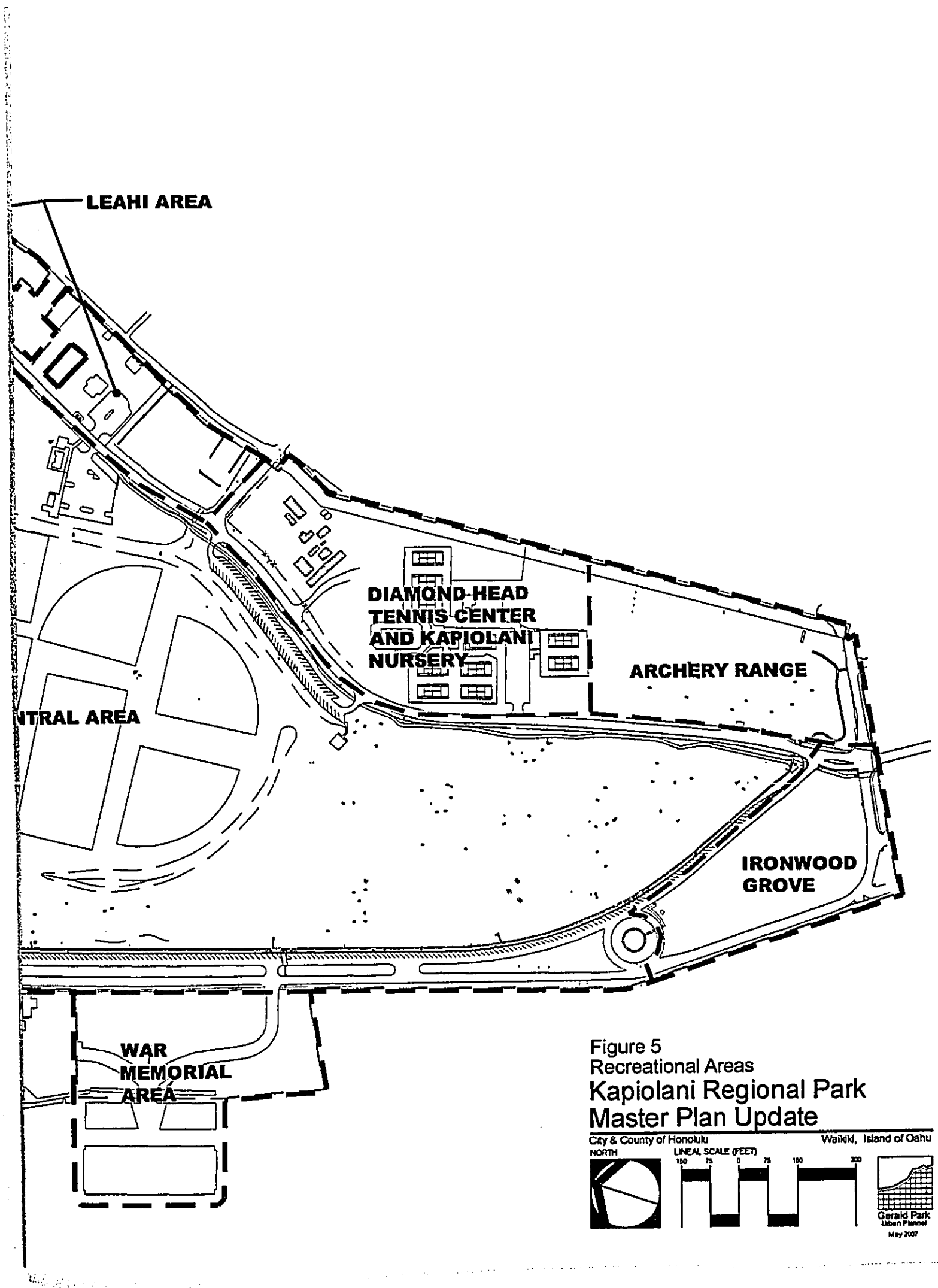


Figure 5
Recreational Areas
Kapiolani Regional Park
Master Plan Update

City & County of Honolulu — Waikiki, Island of Oahu

NORTH

LINEAL SCALE (FEET)
150 75 0 75 150 300

Gerald Park
Urban Planner
May 2007

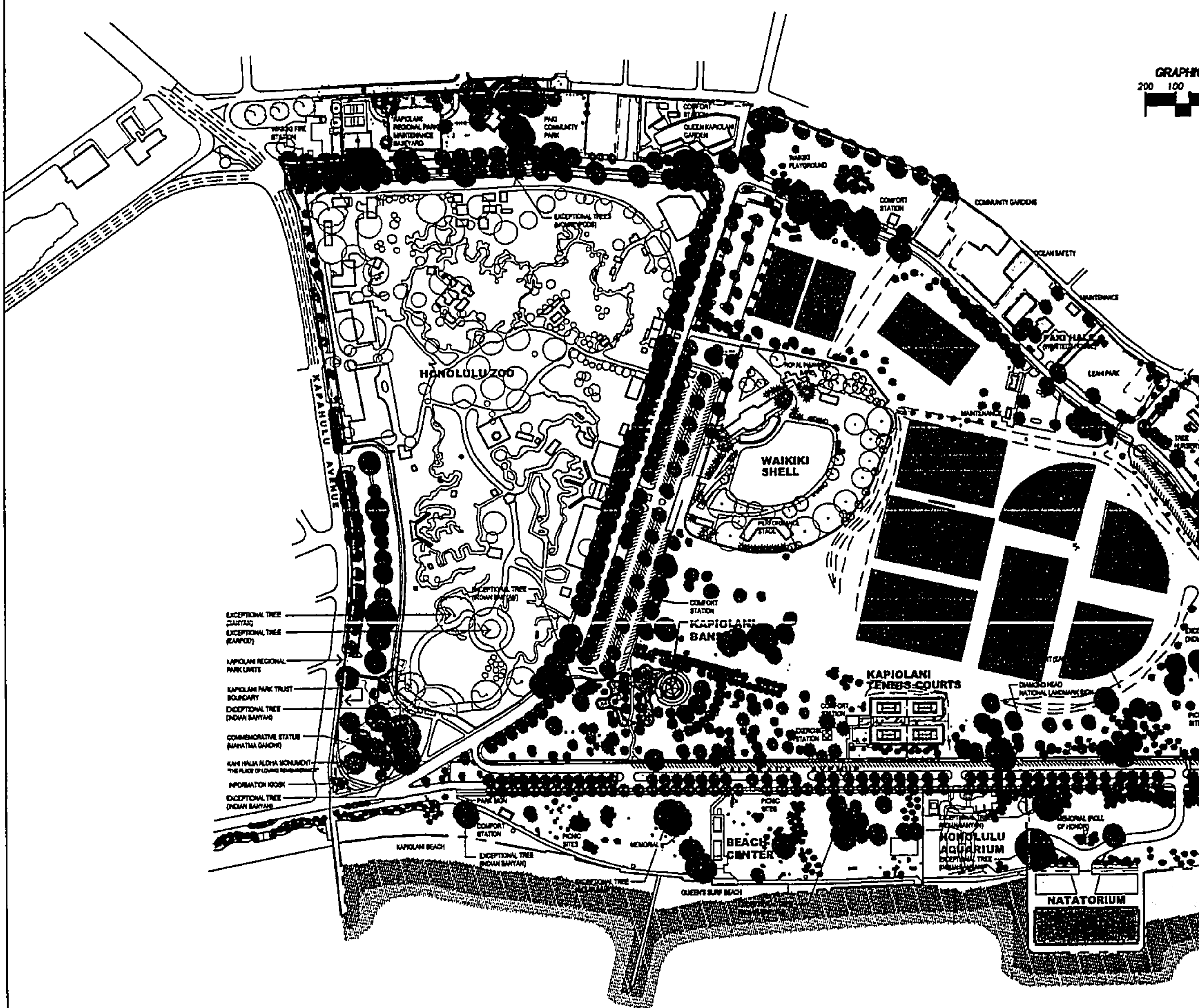


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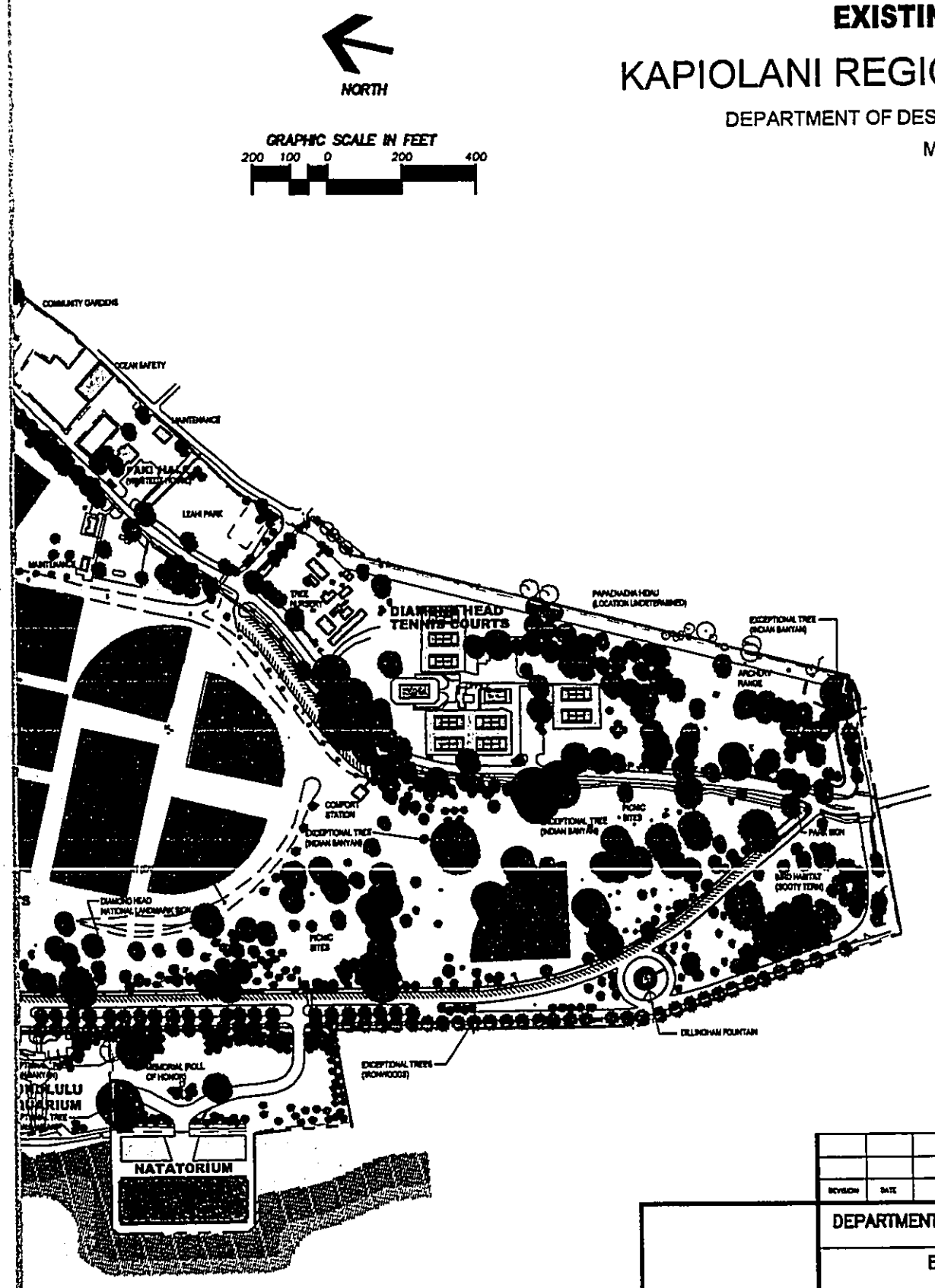
FIGURE 6
EXISTING CONDITIONS

KAPIOLANI REGIONAL PARK

DEPARTMENT OF DESIGN & CONSTRUCTION

MIYABARA ASSOCIATES

NOVEMBER 30, 2006



REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU

EXISTING CONDITIONS
FOR
KAPIOLANI REGIONAL PARK
MASTER PLAN UPDATE
HONOLULU, OAHU, HAWAII
TAX MAP KEY: 3-1-45

APPROVED:

Director, Department of Design and Construction — Date

CONCUR:

Director, Department of Parks and Recreation — Date

of Mahatma Ghandi has been erected under the spreading canopy of one of the exceptional trees.

Kapiolani Beach/Queen's Surf Beach

This section of the Park is an elongated grassy expanse bounded by Kalakaua Avenue, the Pacific Ocean, Sans Souci Beach on the south, and the groin opposite Kapahulu Avenue on the north. This beachfront area is used for sunbathing, picnicking, pick-up games, and group gatherings. Facilities include a Beach Center with a snack bar and comfort station situated near the middle of the beach section. A second comfort station is sited further to the north of the Beach Center. The area is called Queen's Surf Beach in remembrance of *the Old Queen's Surf (a restaurant and cocktail lounge)* that was sited where the Beach Center now stands.

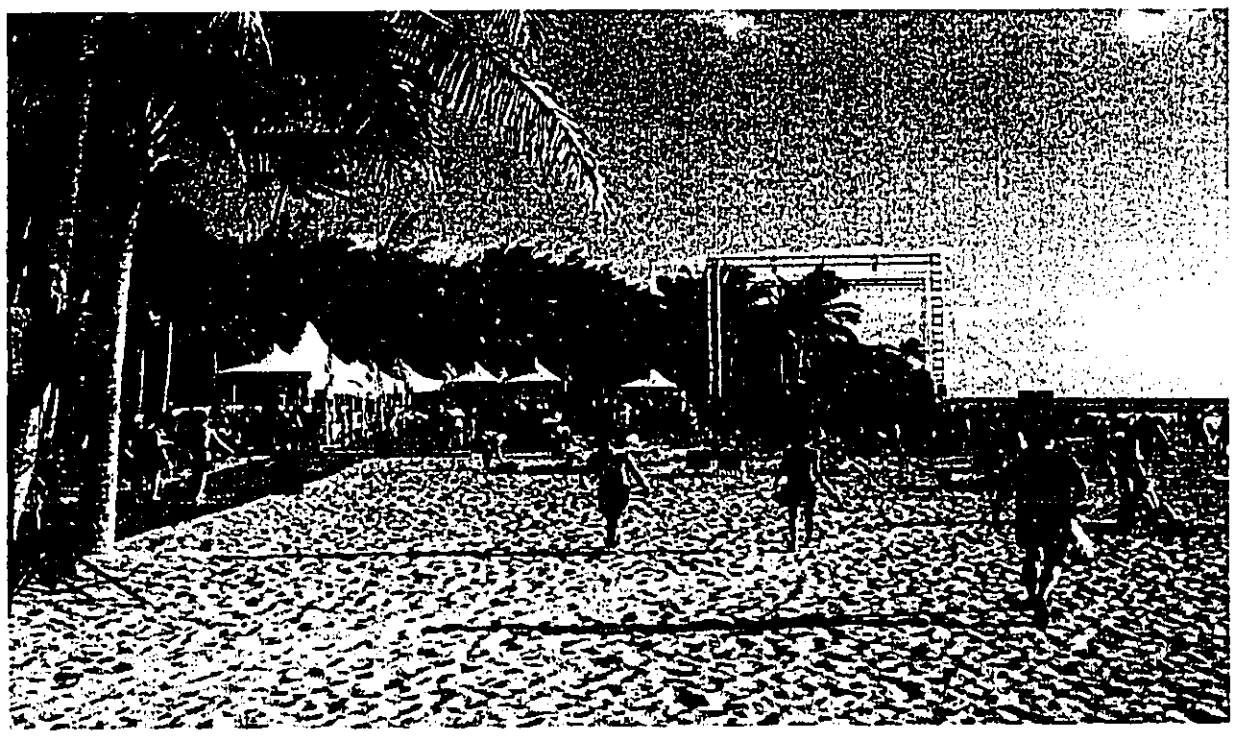
A wide flagstone paved promenade provides pedestrian access along the shoreline (Photograph 1). A memorial to Moses Manuwai, a former lifeguard, is located here. The grassy area between the Beach Center and the Waikiki Aquarium is used for sunbathing and passive recreational activities.

Photograph 1. Pedestrian Promenade at Kapiolani Beach.

Offshore, "Cunha's", "Public's" and "Castle's" are popular surf breaks.

Between the Waikiki Natatorium and the groin at the end of Kapahulu Avenue, the ocean up to 500 yards offshore is designated a Marine Life Conservation District ("MLCD") and managed by the Department of Land and Natural Resources. Taking of marine life in the MLCD is not permitted.

The north end is the location for "Sunset on the Beach" a popular monthly outdoor weekend function open to the public (Photograph 2). Beginning in the late afternoon, people gather here to watch a free evening movie on the beach and dine on on-site prepared local foods.



Photograph 2. Site of "Sunset on the Beach".

The Waikiki Aquarium, a State operated facility, is located in this area.

War Memorial Area

The Waikiki Natatorium and a Roll of Honor Memorial mauka of the Natatorium are the principal facilities. The lawn fronting the Roll of Honor is used for picnicking and passive recreation. Adjoining the Natatorium on its south side, Sans Souci Beach offers calm waters for swimming and a sandy beach for sunbathing.

Partial restoration of the Waikiki Natatorium (primarily the entry arches and restroom facilities) was completed in 2001. The 100-meter X 36-meter saltwater pool, which was the defining feature of the Natatorium, has not yet been restored and is closed to public use.

Ironwood Grove

The Ironwood Grove at the Diamond Head end of the Park is used primarily for picnicking and passive recreation activities. A grassy lawn covers about one-half of this space and ironwood trees the remaining half (Photograph 3). The ironwood trees are also a habitat for the sooty tern. The Dillingham Fountain is the major landmark in this area. A short-course exercise layout with exercise stations circles the ironwood grove.

Photograph 3. Ironwood Grove Facing Diamond Head from Dillingham Fountain.

Central Area

The Central Area is the largest and most used section of the Park. The chief design feature of Kapiolani Park in the late 1770's was an oval racetrack. About half of the racetrack was located in the Central Area and the other half in the area of the present Honolulu Zoo. The outline of the original track can be seen by the changes in terrain (mounded earth) and tree layout (a line of date palms) in the Central Area. The large open area is used for organized field sports (soccer, rugby, softball, cricket, and recently lacrosse), free play, kite flying, and other non-structured activities. The Kapiolani Tennis Courts (4 lighted courts) are located near the center of the Park near Kalakaua Avenue. Trees surrounding the perimeter of the open area shade well-used picnic areas. In addition to open space for active and passive activities, the Waikiki Shell and Kapiolani Park Bandstand are major venues for entertainment and socio-cultural activities in the community.

Archery Range

About one-half of the area located in the southeastern corner of the Park above Paki Avenue is set aside for an archery range (Western archery and Zen archery) and the other half for open space and picnicking. Kiawe trees provide shade for picnicking and passive activities. Groups using this area often set up nets for grass volleyball (Photograph 4).

Diamond Head Tennis Center and Kapiolani Nursery

Built in the 1960's, the tennis complex features 9 tennis courts, one stadium court, and a paddle tennis court. An office and restrooms are located within a small building near the center of the complex. The courts are not lighted. The parking lot has 53 striped stalls.

Photograph 4. Open Space Area Below the Archery Range.

Kapiolani Nursery grows field stock trees, palms and other plant materials used in landscaping the Park and other City parks.

Leahi Area

Waikiki Playground on the north and Leahi Park on the south bound the block between Monsarrat Avenue and Noela Way. Both parks are principally lawn areas used for passive recreation. Municipal facilities in this area include Paki Hale, Diamond Head Community Gardens, and a building housing the City's Water Safety Division.

Paki Area

Queen Kapiolani Garden and Paki Community Park are the principal park features in the Paki area. Roses were once the theme at the Garden but the site was not as popular or as suitable for roses as expected. The Garden has since been transformed into a hibiscus garden. Several species of native Hawaiian plants are also on display. Facilities at the garden include a comfort station and arbor. The vine-covered arbor shades people from the glaring sun and is a popular gathering place for board games.

A grassed lawn area with a covered, low-rise pavilion (with meeting room and restrooms) identifies Paki Community Park (Photograph 5). Several large monkey pod trees provide shade and filtered light for picnicking and other passive activities. Recreation facilities include a play apparatus and swings next to the pavilion. The basketball/volleyball court at the north end of the Park is well used by players of both sports. The lawn is used for small group activities such as volleyball or *keiki* soccer practice.

Photograph 5. Lawn Area and Pavilion at Paki Community Park.

The Park Maintenance Baseyard, a one-story building, separates the lawn area on the south from basketball/volleyball courts on the north. Kapiolani Regional Park maintenance vehicles and supplies are stored in the building. Harry Sims Bent, who is noted for the park architecture at Ala Moana Beach Park, Mother Waldron Park, and Haleiwa Beach Park, designed the building.

B. Climate

Abundant sunshine, persistent trade winds, relatively constant temperatures, and moderate humidity characterize Honolulu's tropical weather. Mean temperatures ranges from 73^0 Fahrenheit in the winter to 82^0 during the summer. Average rainfall is about 20 inches annually with most rainfall occurring between November and April. Relative humidity ranges between 56 and 72 percent.

C. Topography

Although most of the Park ground appears to be flat, the terrain slopes gently from mauka to makai. Most of the interior park areas range between 6 to 7 feet in elevation. The high point is along Paki Avenue where ground elevation measures about 10 feet above mean sea level ("msl") along the length of the street. Along Kapiolani Beach, ground elevation is about 5 feet above msl.

D. Geology

The geology of Kapiolani Regional Park is presumed similar to that found at Honolulu Zoo. Here, the geological formation consists of a thin layer of volcanic tuff (rock formed from volcanic ash) overlying a corraline reef consisting of calcareous reef deposits (Belt Collins Hawaii, 2003). The former is material that was ejected from the Diamond Head vent when it

blasted through existing reef deposits. Board of Water Supply borings for caprock wells in the vicinity of the Zoo encountered Diamond Head tuff overlying calcareous reef formation. The weathered volcanic tuff is approximately 6 feet thick. Soil borings taken at the Zoo encountered corraline bedrock at depths of 7 to 27 feet (Ibid).

E. Soils

A Soil Conservation Service (1972) soil map (Sheet 63) identifies five soil types---Beaches(BS), Jaucus Sand (JaC), Kawaihapai clay loam (KIA), Ewa silty clay loam (EmA), and Molokai silty clay loam (MuB)---underlying Kapiolani Regional Park (and the Honolulu Zoo).

Jaucus sand is the predominant soil covering the entire Central Area, parts of the Honolulu Zoo, and portions of Kapiolani Beach. Kawaihapai clay loam underlies about half of the Honolulu Zoo. Beach Sand occurs along the ocean interfacing with Jaucus sand. Ewa soil is found primarily in the Paki Area and Molokai loam in the Leahi, Diamond Head Tennis Courts, and Archery range areas mauka of Paki Avenue.

With the exception of Beaches, the four soils are moderate to rapidly permeable; the erosion hazard from water is slight; and runoff is slow to medium. During high winds, the erosion potential for Jaucus sand is severe.

Although the Soil Conservation Service soil maps identify several existing soil types, in the late 1800's and early 1900's Waikiki was still a swamp fed by runoff and sediment carried by streams from the Koolau Mountains. Historical maps show a duck pond and *kalo land* existing in what are now the site of the Honolulu Zoo and the western portion of Kapiolani Park (Cultural Surveys Hawaii, 2003). In the late 1800's the desire to create a watery landscape for the dry parkland resulted in the "construction of a system of canals and ditches from which water was drained to create a collection of small islands and ponds (Wyeneth, 1991)." The largest of these ponds was located at the site of the current Honolulu Zoo. An island stood in the middle of the pond and was named Makee Island, after James Makee one of the founders of the Kapiolani Park Association that established Kapiolani Park. The ponds created a watery landscape in an otherwise dry and flat park (Note: the eastern half of the Park was predominantly flat land and the Park was generally dry and hot throughout the year). The ponds were used for boating and the tree lined islands, which were accessible by footbridges, were popular spots for picnicking. A small, covered bandstand (the first Kapiolani Park Bandstand) was located on Makee Island. The ponds eventually were filled in the 1920's with the construction of the Ala Wai Canal (Wyeneth, Ibid).

F. Hydrology

1. Surface Water

There are no natural sources of surface water present within the Park. The Pacific Ocean borders the Park on the west. The Ala Wai Canal ("Canal"), a man-made canal, is located to the north of the Park. The Canal was constructed in the 1920s to divert runoff from Makiki, Manoa, and Palolo Streams from discharging into the waters off Waikiki. Its construction eventually paved the way for transforming Waikiki from an area of marshlands to one of fastland. The 2.0 mile long Canal extends from Kapahulu Avenue on the south to

the Ala Wai Boat Harbor on the north. In 2003, the Department of Land and Natural Resources, State of Hawaii, completed a dredging project for the entire canal.

Paki Park adjoining the Waikiki Fire Station is about 1,200 LF from the Kapahulu Avenue end of the Canal; the Central Area of the Park is approximately 1/2 mile from the Canal.

2. Groundwater

Kapiolani Regional Park overlies the Palolo aquifer of the Honolulu Sector. The Palolo aquifer is characterized by an unconfined caprock aquifer above a confined basal aquifer in basalt. The caprock aquifer is classified as potentially useful, moderately brackish water (between 1000 and 5000 parts per million chloride) that is neither potable nor ecologically important. The basal aquifer is used for drinking water and has less than 250 parts per million chloride (Mink and Lau, 1990).

There are two artesian wells on the property. One is being used by the Honolulu Zoo and is located in Waikiki Playground at the intersection of Monsarrat, Leahi, and Paki Avenues. The other is capped and on the grounds adjacent to Paki Hale.

The Park is located within the Honolulu Water Management Area. Water management of ground and surface water in a water management area is subject to Hawaii Revised Statutes and Administrative Rules of the State Water Code.

G. Flood Hazards

The Flood Insurance Rate Map (Panel 0125B) for this section of Waikiki places all of the Park mauka of Kalakaua Avenue in Zone X (Unshaded), which is defined as "areas determined to be outside 500 year flood plain" (Federal Emergency Management Agency, 1987). A Flood Hazard Map is shown in Figure 7.

Portions of the Park makai of Kalakaua Avenue also are delineated Zone X (Unshaded). Coastal lands are within a Flood Fringe District and subject to 100-year flooding. The coastal lands are identified as Zone AE 9' and AE 10' with the numeric indicating the base flood elevation. In general the AE 9' extends from Kapahulu Avenue to the Waikiki Natatorium and the AE 10' extends from the Waikiki Natatorium past Poni Moi Road. Between Monsarrat Avenue and the Waikiki Natatorium, part of the coastal land is designated Zone A which is an "area of 100 year flooding; base flood elevation not determined." The source of this flood designation cannot be determined but may result from overland flow from areas mauka of Kalakaua Avenue.

Although not a designated flood hazard area, several areas of the Park are prone to localized flooding following heavy rainstorms. These areas include the Waikiki half of the central area of the Park and sections of Paki Street and Kalakaua Avenue (City and County of Honolulu, 1983).

H. Flora and Fauna

Mature Monkey Pod (*Samanea saman*), Ironwood (*Casuarina spp.*), Banyan (*Ficus sp.*), Shower Tree (*Cassia sp.*), Kiawe (*Prosopis pallida*), Date Palm (*Phoenix dactllifera*), and Coconut (*Cocos nucifera*) are commonly found throughout the Park. Common Bermuda grass (*Cynodon dactylon*) comprises the principal groundcover.

A double row of ironwood trees flanking a path comprised of crushed coral stands to the east of the Kapiolani Park Bandstand. The trees were planted as an *allee*, a term borrowed from French landscape architecture of the seventeenth century to describe a long, avenue lined by a double row of trees (Wyeneth, 1991). The *allee* is about 500 feet long and is a remnant of a former carriage road or system or paths and roads that were constructed to provide access to scenic areas within the park (Ibid).

Several trees are listed as Exceptional Trees and protected by City ordinance (Article 13, Chapter 41, Revised Ordinances of Honolulu, as amended). These exceptional trees and their locations are:

- Ironwood trees planted along Kalakaua Avenue from Kapahulu Avenue to Poni Moi Road;
- Ironwood trees (grove of double row) to the east of the Kapiolani Park Bandstand;
- Indian banyan tree (total of 11):
  - 2 trees in front of Honolulu Zoo entrance;
  - directly across entrance to Honolulu Zoo, *makai* of Kalakaua Avenue;
  - ewa side of Queen's Surf Beach Center, *makai* of Kalakaua Avenue;
  - ewa side of Waikiki Aquarium, *makai* of Kalakaua Avenue;
  - 2 trees in front of the Waikiki War Memorial Natatorium;
  - 2 trees across the street from Diamond Head Tennis Court Center;
  - Diamond Head corner of archery range near entrance to La Pietra;
  - *mauka* tree across the Diamond Head side of the Honolulu Zoo *makai* side of Waikiki Shell parking lot entrance.
- Monkeypod trees planted along Paki Avenue between Monsarrat and Kapahulu Avenues.

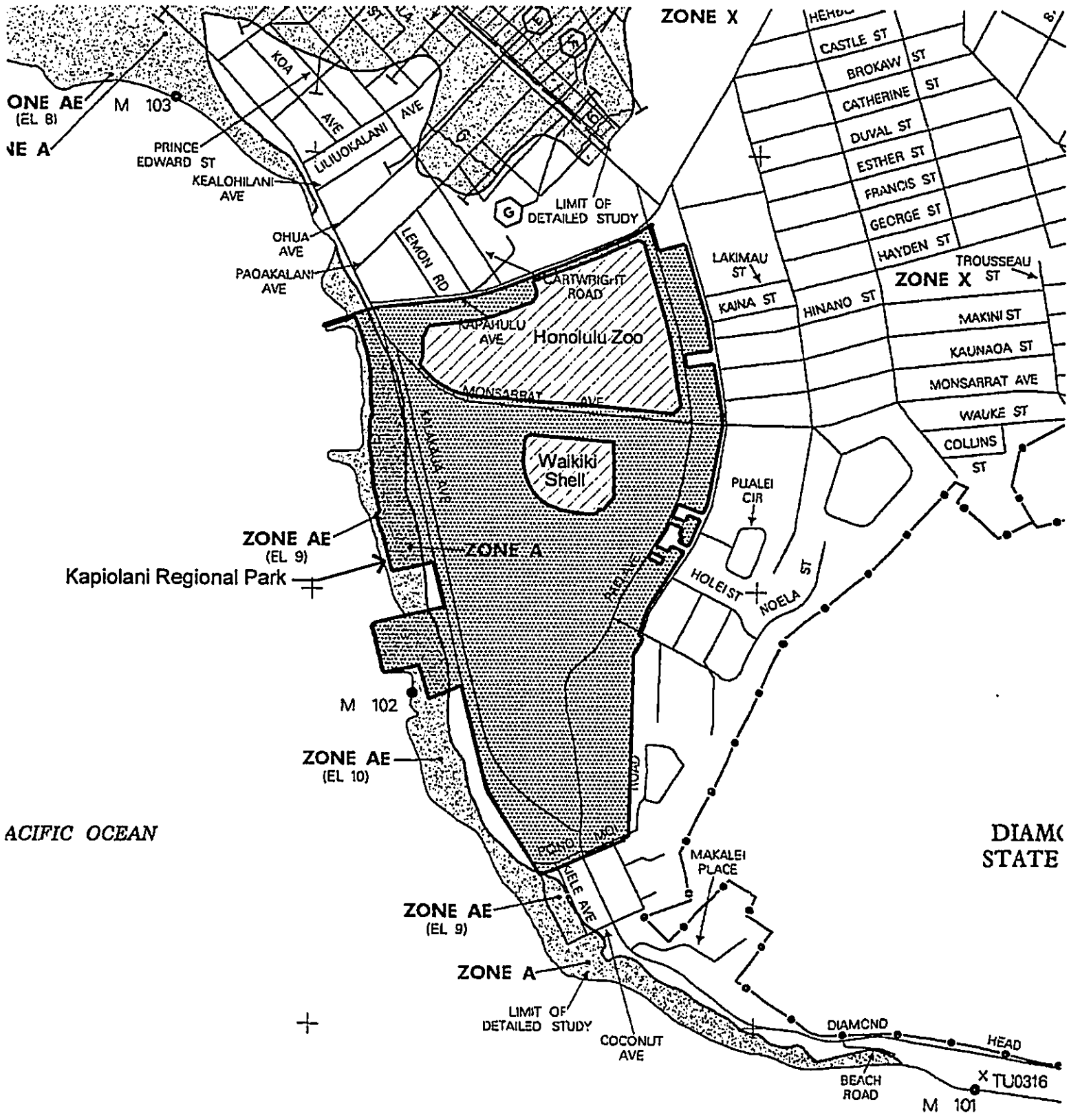
The Kapiolani Park Master Design Plan (City and County of Honolulu, 1983) recognized the remaining trees in the Park for their importance:

> "The entire collection of trees is considered significant. Several specimen banyan trees, trees along Monsarrat and the numerous shower and coconut trees are important. Many trees are aging, however, and will eventually require replacement, such as the ironwoods and acacias, which are particularly brittle, and many coconuts."

The hibiscus collection at Queen Kapiolani Garden is supplemented with native Hawaiian plants such as nehe, loulu palm, noni, a'ali'i, ke'oke'o, koki'o ko'oko'o, 'ohai ,and common ornamentals including bougainvillea (*Bougainvillea spp.*), ti (*Cordyline terminalis*), and eranthemum (*Pseuderanthemum reticulatum*).

Wildlife observed on the premises was limited primarily to birds including Japanese white-eye (*Zosterops japonica*), barred dove (*Geopelia striata*), common mynah (*Acridotheres tristis*), pigeon, (house sparrow) (*Passer domesticus*), and Brazilian cardinal (*Paroaria cucullata*). The ironwood grove adjoining Poni Moi Road is frequented by the sooty tern (*Sterna fuscata oahuensis*).

The availability of water and food (either wantonly discarded or placed in trash receptacles) suggest that rodents are present. Feral dogs and cats are known to roam the grounds.



Legend

- Special Flood Hazard Zone Inundated by 100-Year Flood
  - Zone A No Base Flood Elevation Determined.
  - Zone AE Base Flood Elevation Determined.
- Floodway Area in Zone AE
- Zone X Areas Determined to be Within 500-Year with average depth of less than 1 foot.
- Zone X Areas Determined to be Outside 500-Year Floodplain.

Source: Federal Emergency Management Agency
Flood Insurance Rate Map
Map Number 15003C0370F
Date: September 30, 2004.

Figure 7
Flood Insurance Rate Map
Kapiolani Regional Park Master Plan Update

City & County of Honolulu — Waikiki, Island of Oahu

NORTH

LINEAL SCALE (FEET) 500 250 0 250 500 1000

Gerald Park
Urban Planner
January 2007

I. Historical Features

Portions of the Park are listed on the State of Hawaii Register of Historic Places (Site No. 80-14-9758) and eligible for placement on The National Register of Historic Places. The significance of the Park was summarized in the nomination papers as:

> "Kapiolani Park is historically significant for its past association with indigenous Hawaiian culture and royalty. Hawaiian King Kalakaua envisioned the park as a place of recreation for all and named it after his famous Queen, Kapiolani. Since its dedication in 1877 it has been in continuous use as a location for recreational activities valued by local residents and visitors alike. It provides a sense of place to a special part of Honolulu and is identified with the world famous image of Hawaii as a recreational resort. Over the years it has been the scene of a variety *of sports and leisure time activities that reflects the recreational development of* Honolulu and Hawaii into the modern world."

Several structures and features that have been identified for their role in the history and development of the Park are listed below.

- Remnant of the race track oval and berm in the Central Area
- Ironwood Grove and paths at the Diamond Head end
- Ironwood trees along Kalakaua Avenue (Planted by A.S. Cleghorn)
- Ironwood trees adjoining the bandstand (Planted by A.S. Cleghorn)
- Winstedt House (Paki Hale)
- Park Service Center Building on Paki Street (Designed by Harry Sims Bent)
- Waikiki War Memorial and Natatorium
- Tennis courts along Kalakaua Avenue (First tennis courts in Hawaii)
- Transit Shelter (Reproduction)
- Honolulu Zoo

Cultural Surveys Hawaii (2000) reported that in the early 1900s Thomas Thrum identified five *heiau* as having been located at Diamond Head, at or near the present Kapiolani Park. The heiau are Papa'ena'ena, Kupalaha, Kapua, Kamauakapu, and Makahuna.

The remnants of Papa'ena'ena Heiau adjoin the Park. This feature is located above the Diamond Head Tennis Center and archery range. Kupalaha and Kapua were torn down and the latter two features are located closer to Diamond Head.

Although not historical in terms of age and contribution to the development of the Park, several commemorative and memorial features have been erected. These include:

- Statue of Mahatma Ghandi fronting the Honolulu Zoo
- Statue of Queen Kapiolani near the Kapiolani Park Bandstand
- Manuwai Memorial at Queen's Surf Beach
- Statue of surfer at Queen's Surf Beach
- Time Capsule near the Kapiolani Bandstand
- Diamond Head National Landmark Plaque
- Kāhi Hāil'a Aloha at Kapiolani Park Gateway

J. Land Use Controls

State and County land use controls governing the use of the site are identified as follows:

State Land Use District:	Urban
Oahu General Plan:	Primary Urban Center
Development Plan Area:	Primary Urban Center
Development Plan Land Use Map:	Major Park and Open Space
Development Plan Public Facilities Map:	Government Building/Modification
Zoning:	P-2 General Preservation
Special District:	Diamond Head Special District
Special Management Area:	Inside Special Management Area

The respective counties control land uses in the State Land Use Urban District. Public uses and facilities (such as county parks) are a permitted principal use of the P-2 zoning district. Park use is thus consistent with zoning controls for the Park.

"The General Plan for the City and County of Honolulu is a comprehensive statement of objectives and policies which sets forth the long-range aspirations of Oahu's residents and the strategies of actions to achieve them. It is the focal point of a comprehensive planning process that addresses physical, social, economic and environmental concerns affecting the City and County of Honolulu (General Plan)."
The general plan sets forth objectives and policies in eleven functional areas that can be achieved within a 20-year time span. General plan functional areas applicable to Kapiolani Regional Park and consistent with the Master Plan Update improvements are cited below:

III. Natural Environment

Objective B — To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 2 — Protect Oahu's scenic views, especially those seen from highly developed and heavily traveled areas.

V. Transportation and Utilities

Objective A — To create a transportation system which will enable people and goods to move safely, efficiently, and at a reasonable cost; serve all people, including the poor, the elderly, and the physically handicapped; and offer a variety of attractive and convenient modes of travel.

Policy 1 — Develop and maintain an integrated ground-transportation system consisting of the following elements and their primary purposes:

c. Bikeways—for recreational activities and trips to work, schools, shopping centers, and community facilities; and

Policy 11 — Make public, and encourage private improvements to major walkway systems.

Objective D To maintain transportation and utility systems which will help Oahu continue to be a desirable place to live and visit.

Policy 5 Require the installation of underground utility lines wherever feasible.

X. Culture and Recreation

Objective B. To protect Oahu's cultural, historic, architectural, and archeological resources.

Policy 1. Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.

Policy 2. Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural, and archaeological significance.

Objective D To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.

Policy 2 Develop and maintain a system of regional parks and specialized recreation facilities

Policy 6 Provide convenient access to all beaches and inland recreation areas.

Policy 12 Provide for safe and secure use of public parks, beaches, and recreation facilities.

The Primary Urban Center Development Plan ("Development Plan") does not make specific recommendations for Kapiolani Regional Park. The Development Plan classifies public parks into two types:1) islandwide and regional parks; and 2) community-based parks. Islandwide, regional, district parks and other major open spaces are identified on the Open Space Map for the PUC. Major regional parks include Blaisdell Park, Aiea Bay State Recreation Area, Keehi Lagoon Park, Sand Island State Recreational Area, Kakaako Waterfront Park, Ala Moana Beach Park, Fort DeRussy, and Kapiolani Regional Park. Regional parks are only one of several interrelated elements both natural and man-made including streams, the mountains, the shoreline and ocean, geological landforms, and college and high school campuses that comprise Honolulu's open space system.

The Development Plan points out that "[D]ue to the shortage of parkland in densely populated neighborhoods, much of the available space in community-based parks and regional parks such as Queen Kapiolani [Kapiolani Regional Park] and Ala Moana is dedicated to facilities for intensive, active recreation (p.3-8). This often compromises aesthetic and recreational value of parks as places for quiet enjoyment of the outdoors." While acknowledging that active recreational activities are commonplace in regional parks, the planners also recommend that parks and open spaces should "[M]aintain a significant amount of open space and area dedicated to passive recreation on all park lands, especially the regional and islandwide parks (p.B2)."

Kapiolani Regional Park lies within the County delineated Special Management Area (See Figure 8). According to the shoreline management ordinance of the City and County of Honolulu (Chapter 25, ROH) "no development or structure shall be constructed within the

special management area without first obtaining a special management area use permit, a minor permit or being exempted pursuant to the provisions of this chapter (§25.6.1)".

The Park is within the Diamond Head Special District (See Figure 9) and a Special District Permit (either Major or Minor) will be required for future improvements. There is a 0' height restriction for structures in the Park (per Diamond Head Special District height regulations). The height restriction can be "waived" through approval of a waiver. A waiver of the strict application of the development or design standards of the Land Use Ordinance can be granted by the Director of the Department of Planning and Permitting for public or public/private uses and structures and utility installations.

Improvements to the Park are guided by the Waikiki 2000 Kapiolani Park Master Design Plan and the Kapiolani Park Management Plan (City and County of Honolulu, 1983). The Master Design Plan recognizes the importance of Kapiolani Park as a 19th century park with distinctive buildings, landscaping, historical features, and a history that should be preserved while providing for current and future recreation needs. Towards these goals, the Master Design Plan states:

a) The main purpose of Kapiolani Park shall remain essentially what King Kalakaua intended over 100 years ago: "A resort and place of innocent refreshment for all who wish to evade the dust of the town streets".
b) The continuing value of the park shall be its trees, open space, beach frontage and view of Diamond Head.
c) The park is to remain a setting for various civic, cultural, social, recreational and sports events and activities and a place of general relaxation and rest.
d) The overall use of the park shall be devoted to a mixture of compatible active and passive recreation uses, general use facilities, local community related uses and special purpose functions.

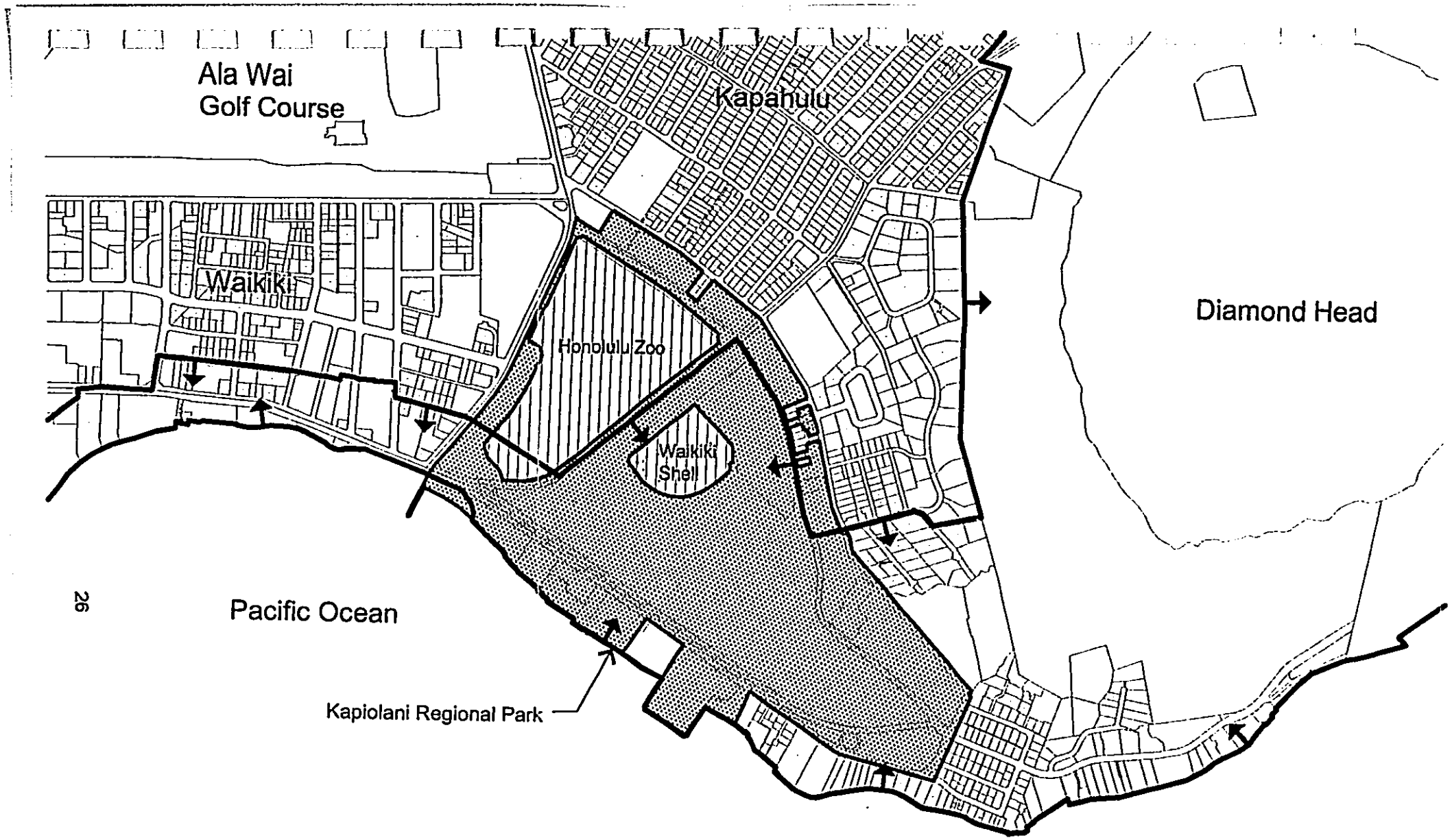
The Coastal View Study (Chu and Jones, 1987) identifies Kalakaua Avenue fronting Kapiolani Regional Park as providing continuous coastal views from the road and the Queen's Beach area as providing important stationary views of the coast.

K. Public Facilities

1. Streets

Kalakaua Avenue separates most of Kapiolani Regional Park from its beach areas. This two-lane park road in north and south directions lies within a 100-foot right-of-way. The two travel lanes are separated by a median landscaped with ironwood trees. One traffic lane is southbound to Poni Moi Road and the other is northbound to Monsarrat Avenue. Unmetered parallel parking is allowed in the southbound direction. Diagonal parking is metered on the northbound lane fronting Kapiolani Park between the hours of 10:00 AM to 6:00 PM. All other times parking is free. The posted speed limit through the Park is 25 mph. Six openings in the median provide access between north and southbound lanes.

Monsarrat Avenue separates the Honolulu Zoo and Kapiolani Regional Park. This one-way eastbound roadway lies within a 60-foot right-of-way between Kalakaua and Paki Avenues. The street is striped for two traffic lanes. On-street parking is permitted at signed locations on both sides of the road. TheBus, the local municipal transit system, uses the *makai* end of Monsarrat Avenue as a bus driver's break and stopping point.



LEGEND

Special Management Area Boundary

Source: City & County of Honolulu Online GIS Database

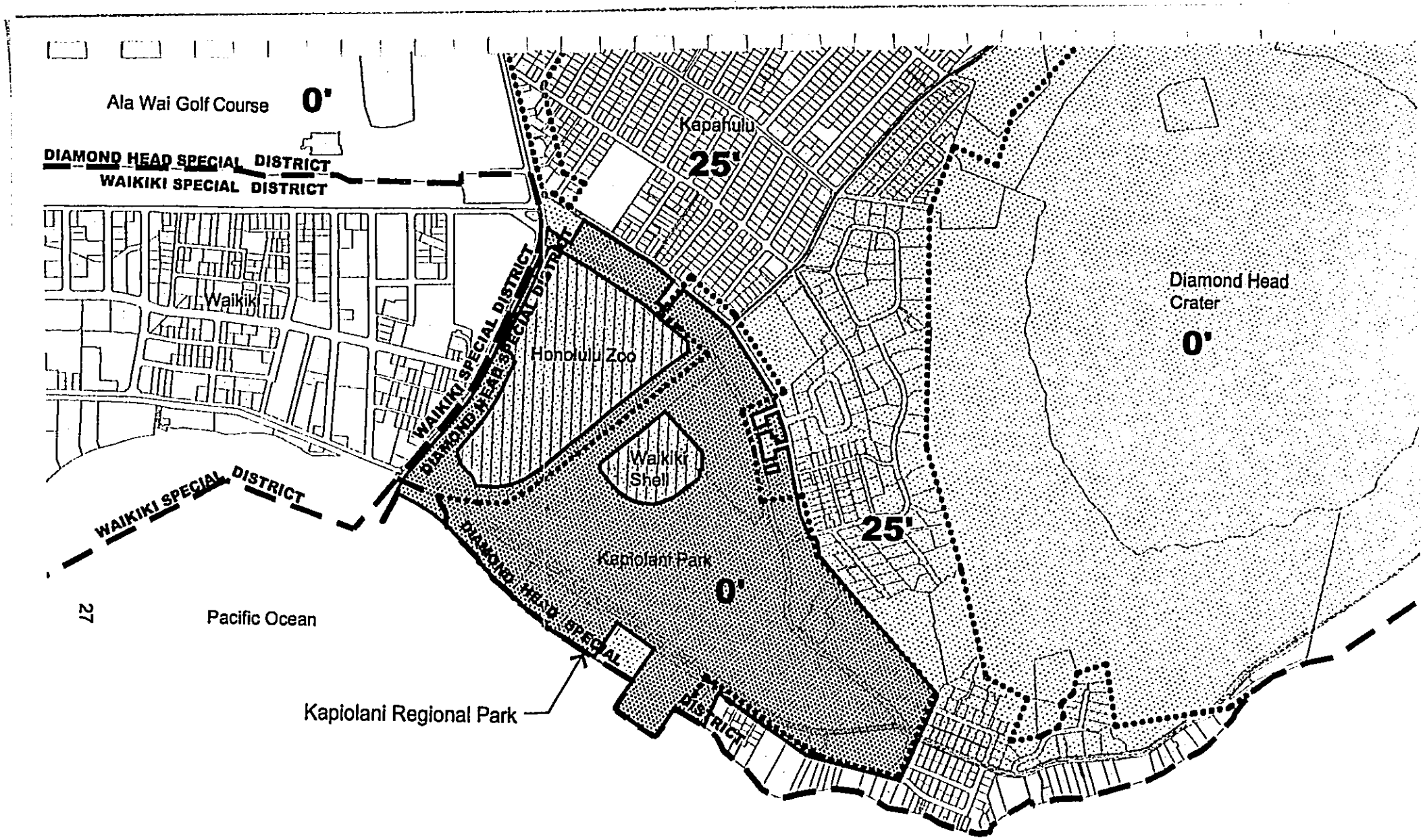
Figure 8
Special Management Area
Kapiolani Regional Park Master Plan Update

City & County of Honolulu — Waikiki, Island of Oahu

NORTH

LINEAL SCALE (FEET)
500 250 0 250 500 1000

Gerald Park
Urban Planner
January 2007



LEGEND

- WAIKIKI & DIAMOND HEAD SPECIAL DISTRICT BOUNDARY
- HEIGHT LIMITATION
- CORE AREA

Source: City & County of Honolulu, Land Use Ordinance, April 2003

Figure 9
Waikiki and Diamond Head
Special Districts

Kapiolani Regional Park Master Plan Update

City & County of Honolulu — Waikiki, Island of Oahu

NORTH

LINEAL SCALE (FEET)

500 250 0 250 500 1000

Gerald Park
Urban Planner
January 2007

Paki Avenue varies in dimension along its length. Between Kapahulu and Monsarrat Avenues, it features three traffic lanes (2 northbound, 1 southbound) and is fully improved with curbs, gutters, and sidewalk. Between Poni Moi Road and Monsarrat Avenue, the road features two traffic lanes (for two-way travel) and is in substandard condition.

Located at the south end of the Park, Poni Moi Road provides access to residential areas at the foot of Diamond Head and above the Park. Below its intersection with Diamond Head Road, Poni Moi is a two-lane, one-way (eastbound) street. Above its intersection with Diamond Head Road, Poni Moi is a two-lane, two-way street serving residential areas and a private school at the base of Diamond Head. On-street parking is not permitted.

The Park is highly accessible by bicycle as bicycle Lanes, bicycle paths, and shared lanes are found on Kalakaua, Monsarrat, and Paki Avenues. Kapiolani Park is a major component of the *Lei of Parks* cycling system linking the City's major regional parks and attractions along the south shore including: Diamond Head, Ala Moana Park, Kakaako Waterfront Park, and Aloha Tower. The system would loop around the University of Hawaii at Manoa and Downtown Honolulu thus completing the *Lei of Parks* (Department of Transportation Services, 1999).

2. Parking

An inventory of the parking spaces within Kapiolani Regional Park and in adjacent public areas was taken to determine the number of existing parking stalls available for Park users including visitors to the Honolulu Zoo (Belt Collins Hawaii, 2000). The inventory included a compilation of the number of spaces in the various parking areas within the area defined by Kapahulu Avenue, Kalakaua Avenue, Poni Moi Road, and Paki Avenue. The survey included public off-street parking areas, marked on-street parking (metered and non-metered), and an estimate of the number of unmarked parking stalls.

The location of on and off-street parking areas and stall counts are shown in Figure 10.

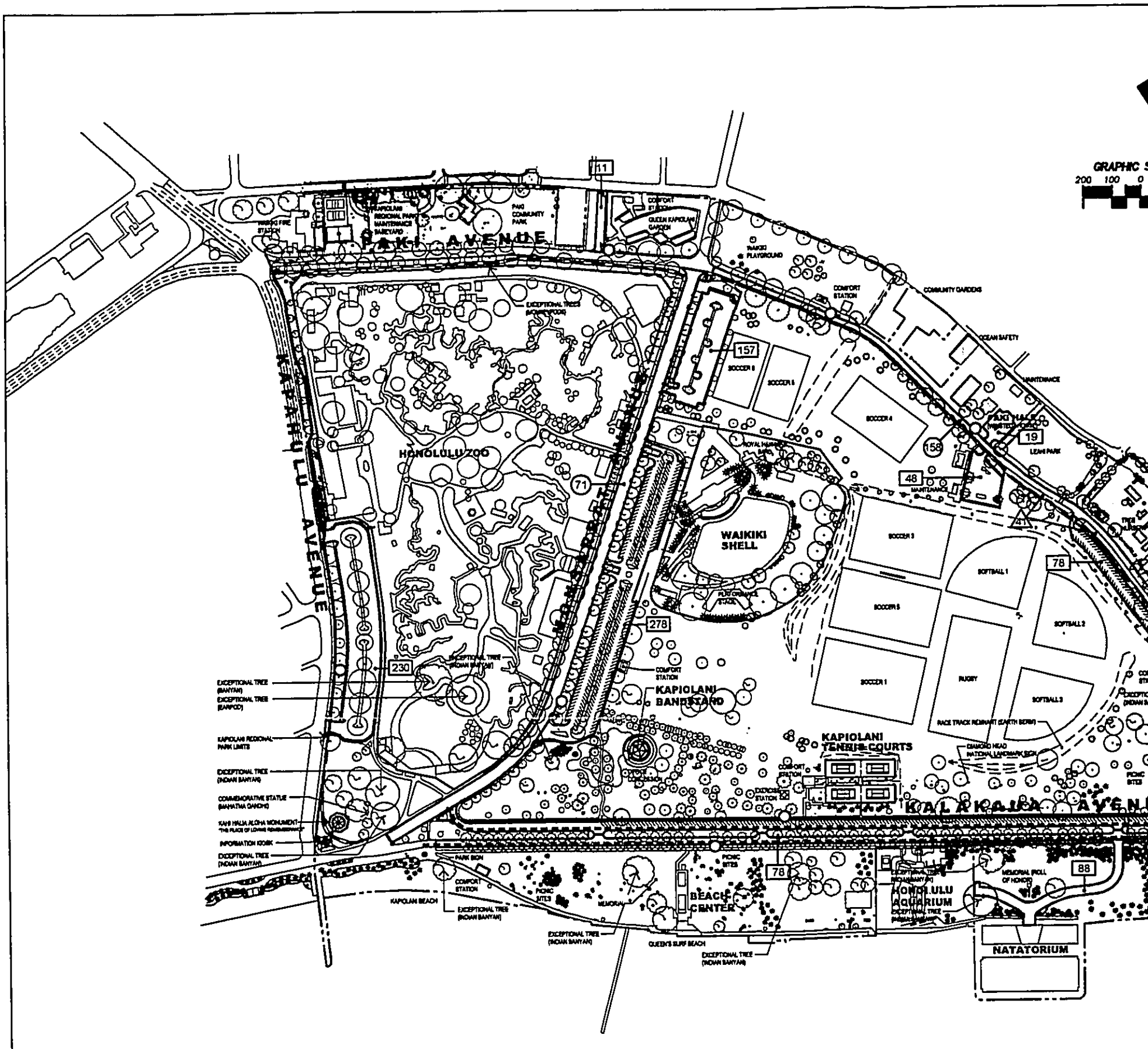
3. Water

Potable water service is provided by the Board of Water Supply system. Water is available through an 8-inch line in Kalakaua Avenue, a 6-inch line in Monsarrat Avenue, and a 12-inch line in Paki Avenue.

4. Wastewater

Wastewater collection is provided by municipal sewer system. Sewer lines of varying size are located within street rights-of-way with the exception of Paki Avenue between Poni Moii Road and Noela Drive which is not sewered. Wastewater from the residential areas along Paki Avenue flows into a manhole at Noela Drive. From the manhole, an 8-inch wastewater line crosses Kapiolani Park and ties into a sewer line along Kalalakau Avenue.

A 10-inch gravity sewer is the principal waste water line along Kalakaua Avenue. Waste water from this line discharges into the Public Baths Wastewater Pump Station and is pumped through a 12-inch force main to the Beach Walk Wastewater Pump Station. From the Beach Walk Wastewater Pump Station, wastewater is pumped by force main to the Sand Island Wastewater Treatment Plant for treatment and disposal.



* EXISTING PARKING BASED ON HONOLULU ZOO/ KAPIOLANI REGIONAL PARK - PARKING STUDY.
BY: BELT COLLINS HAWAII, LTD. AND JULIAN NG, INC., FEBRUARY 2000.

FIGURE 10

EXISTING CIRCULATION AND PARKING

KAPIOLANI REGIONAL PARK

DEPARTMENT OF DESIGN & CONSTRUCTION

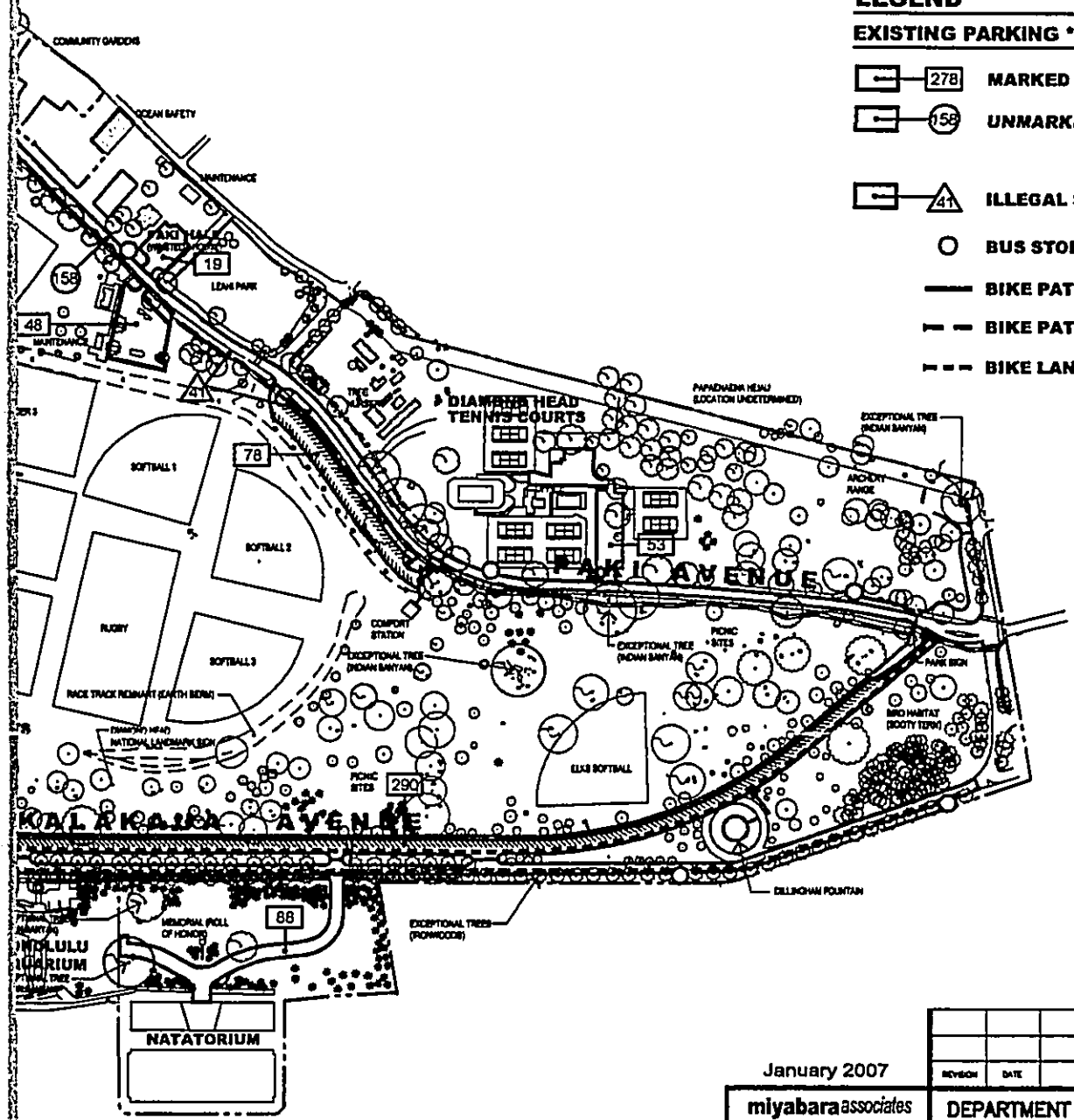
MIYABARA ASSOCIATES

JANUARY 2007

NORTH

GRAPHIC SCALE IN FEET

200 100 0 200 400



LEGEND

EXISTING PARKING *

278	MARKED STALLS	1,330
158	UNMARKED STALLS	229
	TOTAL:	2,559 STALLS
41	ILLEGAL STALLS	41

- BUS STOP
- BIKE PATH
- BIKE PATH (SHARED)
- BIKE LANE (STRIPED)

* EXISTING PARKING BASED ON HONOLULU ZOO/ KAPIOLANI REGIONAL PARK - PARKING STUDY, BY: BELT COLLINS HAWAII, LTD. AND JULIAN NG, INC., FEBRUARY 2000.

CP-1

January 2007

miyabara associates
Landscape Architecture and Land Planning

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU

EXISTING CIRCULATION AND PARKING
FOR
KAPIOLANI REGIONAL PARK
MASTER PLAN UPDATE
HONOLULU, OAHU, HAWAII
TAX MAP KEY: 3-1-49

APPROVED:

Director, Department of Design and Construction — Date

CONCUR:

Director, Department of Parks and Recreation — Date

5. Power and Communication

Power and communication systems are strung on overhead lines along the streets adjoining the Park. Interior areas of the Park are free of overhead utility lines.

L. Public Services

Police protection originates from the Honolulu Police Department Waikiki substation located on Kalakaua Avenue at Kuhio Beach. The substation is within 5 minutes walking distance from the Park.

Fire protection originates from the Waikiki Fire Station located at the corner of Kapahulu and Paki Avenues adjacent to the Park. Response time to emergencies and fire calls at the Park is estimated at less than 5 minutes.

The Department of Parks and Recreation, City and County of Honolulu, is responsible for maintaining almost all of the grounds, structures and facilities that make up the Park and for managing uses and community functions held at the Park.

SECTION 3 SUMMARY OF POTENTIAL ENVIRONMENTAL IMPACTS AND MEASURES TO MITIGATE ADVERSE EFFECTS

A. Assessment Process

The scope of the project was discussed with the consulting landscape architect and staff of the Department of Design and Construction and Department of Parks and Recreation. State and County agencies were contacted for information relative to their discipline. Time was spent in the field noting site conditions and conditions in the vicinity of Kapiolani Regional Park. The Master Plan was presented to the Kapiolani Park Preservation Society and the Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board. The sum total of consultations and field investigations helped to identify existing conditions and features that could affect or be affected by proposed improvements. These influencing conditions include:

- Kapiolani Regional Park has provided active and passive recreational opportunities for residents and visitors of the City and County of Honolulu (also the Kingdom of Hawaii and the Territory of Hawaii) since 1877;
- No rare, threatened, or endangered flora or fauna are found on the premises;
- Exceptional Trees in the Park are protected by City Ordinance;
- Kapiolani Regional Park is not located within a flood hazard area;
- There are no natural streams or ponds on the premises;
- Paki Avenue between Monsarrat Avenue and Poni Moi Street is in substandard condition;
- Water, wastewater, and utility systems are adequate to accommodate the proposed improvements;
- Kapiolani Park is held in a charitable trust established in 1892;
- The Kapiolani Park Trustees are the members of the Honolulu City Council; and
- The day to day operations and maintenance of Kapiolani Regional Park is managed by the City and County of Honolulu; and

The recommended improvements are proposed at a public park that already has been repeatedly altered by the construction of park facilities, roads, and utility systems dating back to 1877. The existing layout of the field areas, park facilities, picnic areas, off-street parking, and comfort stations and the millions of people who use the Park annually contribute to the current condition of the Park. Thus it should be acknowledged that the recommended improvements are not proposed in a pristine environmental setting. The urbanization of "the People's Park" started in 1877 and continues to this day.

Many of the recommended improvements are not major projects. Each will generate short-term construction related impacts but the impacts are judged to be non-significant. Long-term impacts are expected to be beneficial rather than adverse. Recommended improvements which are identified as small-scale include Walkway Widening, Accessibility Improvements, Softball Field Modifications, Bicycle and Moped Parking, and Parking Lot Reconstruction.

Several improvements are suggestive of being major undertakings if gauged by their cost. Technically, these projects can be built rather easily using current construction technologies. Each will generate short-term impacts that could have deleterious effects if construction is not completed in a timely manner. When finished, however, these projects would be a significant improvement over existing conditions. These large-scale improvements are the New Zoo Entry, Placing Utilities Underground, and Paki Avenue Improvements.

The City can choose to group several improvements and undertake them collectively or treat improvements as individual projects. Construction related impacts associated with similar improvement generally are expected to be repeated for each improvement. Some improvements will have a prolonged construction period which will stretch out the duration of environmental impacts (for example improvements to Paki Avenue) while others can be built in a relatively short period of time with minimal impact (for example building bicycle and moped parking areas), little environmental impact (for example modifying the existing softball fields) or no impact (for example replacing Elks softball field).

B. Short-Term Impacts

1. Site Work

Site work will probably be the construction activity most disruptive on the environment. This activity entails grubbing and grading the different sites to receive the proposed improvements. With the exception of placing utility lines underground and reconstructing Paki Avenue, site work for the other improvements should not result in significant adverse impacts. Relatively small areas are to be graded for fixed construction sites and the contractor can control the amount of exposed area for non-stationary sites (walkways).

Site work for Paki Avenue, underground utility lines, and the Zoo entry will require demolition of pavements, trenching (or directional drilling) for utility lines, soil stockpiling, material stockpiling, removing existing utility poles, and installing new poles for street lighting.

Site work will expose soil thus creating opportunities for runoff and erosion. Grading will be performed in accordance with erosion control ordinances of the City and County of Honolulu and approved grading plans. Best Management Practices (BMPS) for erosion and drainage control during construction will be prepared for review and approval by the Department of Planning and Permitting.

An NPDES permit for storm water runoff associated with construction activities will be required because more than one acre of the total land area will be disturbed during construction. Any discharges related to project construction or operation activities shall comply with applicable State Water Quality Standards as specified in Hawaii Administrative Rules, Chapter 11-54 (Department of Health Comment, April 2006).

The presence of a high water table may require dewatering for work extending below the water table. If dewatering is needed, water and solids will be pumped into on-site detention basins and allowed to evaporate. Dried material will transported off-site for disposal. An NPDES Permit will be required from the State Department of Health for any dewatering activity pursuant to Chapter 54, Hawaii Administrative Rules.

2. Air Quality

Site work is a persistent source of fugitive dust. Site contractors are aware that dust is a nuisance to both workers and people living, working, and in this instance recreating near to work sites and it is imperative for them to maintain stringent dust controls. Frequent water sprinkling is probably the most effective dust control measure given the type and scale of proposed improvements. The contractor, however, may choose to implement other measures based on their experience with similar projects and job sites.

The contractor will be responsible for general housekeeping of job sites and for keeping adjacent areas free of mud, sediment, and construction litter and debris. Pollution control measures will comply with Chapter 60.1, Air Pollution Control, Administrative Rules, State Department of Health.

3. Noise

Construction noise is an unavoidable impact. Exposure to noise, however, is expected to vary in volume, frequency, and duration. Noise also will vary by construction phase, the duration of each phase, and the type of equipment used during the different phases. Noise will be most audible during site work when heavy equipment is used for moving (or removing) earth, demolishing pavements, and excavating for footings/foundations, and utility lines. Many of the non-major improvements can be built rather quickly and should not result in adverse acoustical impacts. Building the new walkways will take time but because construction progresses along an alignment, construction noise will be temporary at any one location.

Aside from the new entry building into the zoo, no buildings will be constructed. Once the building foundation, exterior walls, and roof are completed construction noise generally will be confined to inside the structure. The exterior walls and roof should aid in noise attenuation. Although construction is localized to one area of the zoo, noise may interfere with visitor enjoyment of the zoo. It is anticipated that localized construction, dense vegetation, exhibit cages, and zoo structures will aid in noise attenuation inside the zoo grounds.

Noise will be audible beyond the Park boundaries. Nearby residents can expect a temporary degradation in the quality of the acoustical environment when the large-scale improvements are under construction. Construction related noise will be temporary at any one location as overhead utilities are placed underground and installation progresses along the affected roadway. This same condition applies to improvements to Paki Avenue as it progresses from one end of the Park to the other.

Maximum permissible daytime noise levels for the Class A zoning district (which includes lands zoned preservation) set by the State Department of Health is 55 dBA measured within the zoning district and at or beyond the property line. Construction work may temporarily exceed this standard and, per Administrative Rules (Chapter 46) of the Department of Health, the Contractor will obtain a Variance from Pollution Controls permit prior to construction. Construction will be limited to between the hours of 7:00 a.m. to 3:30 p.m., Mondays through Fridays.

4. Archaeology and Historic Resources

Should subsurface archaeological features be unearthed, work in the immediate area will cease and preservation authorities notified for investigation and proper disposition of the finds.

Kapiolani Regional Park is listed on the Hawaii Register of Historic Places. The State Historic Preservation Division must undertake a historic site review and give clearance for the proposed improvements prior to construction.

The existing Honolulu Zoo Entrance Building, which will not be demolished, is not a registered historic structure.

5. Flora and Fauna

Most existing trees will not be affected by the proposed improvements unless they are dead, dying, or diseased. If in any of these conditions, they will be removed.

Street improvements and the underground routing of utilities on Paki Avenue should be studied to avoid damage to trees and their root systems. As much as possible, improvements should be routed around existing trees and their major root systems. A certified arborist should be retained to recommend measures for root pruning and for protecting root systems.

6. Circulation and Parking

Construction work on Kalakaua Avenue, Monsarrat Avenue, and Paki Avenue are required for the improvements planned for the respective roadway. The Department of Design and Construction or the general contractor will prepare a traffic control plan. The traffic control plan will be submitted to the Department of Planning and Permitting for review and approval. Measures for mitigating construction-related traffic impacts may include, but are not limited to:

- Posting notices alerting residents and motorists of scheduled road work.
- Posting warning signs on both sides of the work area to alert motorists of construction and to slow traffic speed.
- Posting flagmen for traffic control.
- Positioning traffic cones or other directional devices in the roadway to guide vehicles around work areas.
- Keeping at least one traffic lane open at all times to minimize inconvenience to motorists.
- Coordinating road work with lot owners whose driveways access onto the affected streets.
- Limiting construction in road rights-of-way to the hours between 8:30 AM and 3:30 PM, Monday through Friday.
- Covering open trenches with steel plates during non-working hours and posting

Road work on Paki Avenue could occasionally limit vehicle circulation to local traffic only. Motorists will be advised to use alternative routes and traffic will be diverted onto other streets. Motorists can expect delays under these working conditions.

Construction vehicles hauling workers and material will contribute to traffic on Kalakaua Avenue, Kapahulu Avenue, Monsarrat Avenue, Paki and Leahi Avenues, and Ala Wai Boulevard. This impact cannot be avoided.

Material deliveries will be scheduled during non-peak traffic hours to minimize impacts on local traffic. Construction material will be off-loaded and stockpiled on-site; however, should materials need to be unloaded within the road right-of-way, flagmen will be posted for traffic control. When this occurs, traffic delays can be expected, but should not last for more than a few minutes.

7. Recreation and Public Safety

Park areas near construction sites will be fenced and closed temporarily. For example areas adjacent to the new zoo entry will be fenced. The contractor, in coordination with the Department of Parks and Recreation, will determine how large an area is to be closed. Existing walkways (or temporary walkways) will guide visitors to the entrance (perhaps the existing entry) and away from the construction site. Fencing and barricades will be posted around all construction sites to promote public safety.

Lesser measures may be taken for the small scale improvements. Conversely, stricter measures may be implemented for construction of the large-scale improvements. The objective is to ensure public health, safety, and welfare both during construction and when construction ceases for the day.

C. Long-Term Impacts

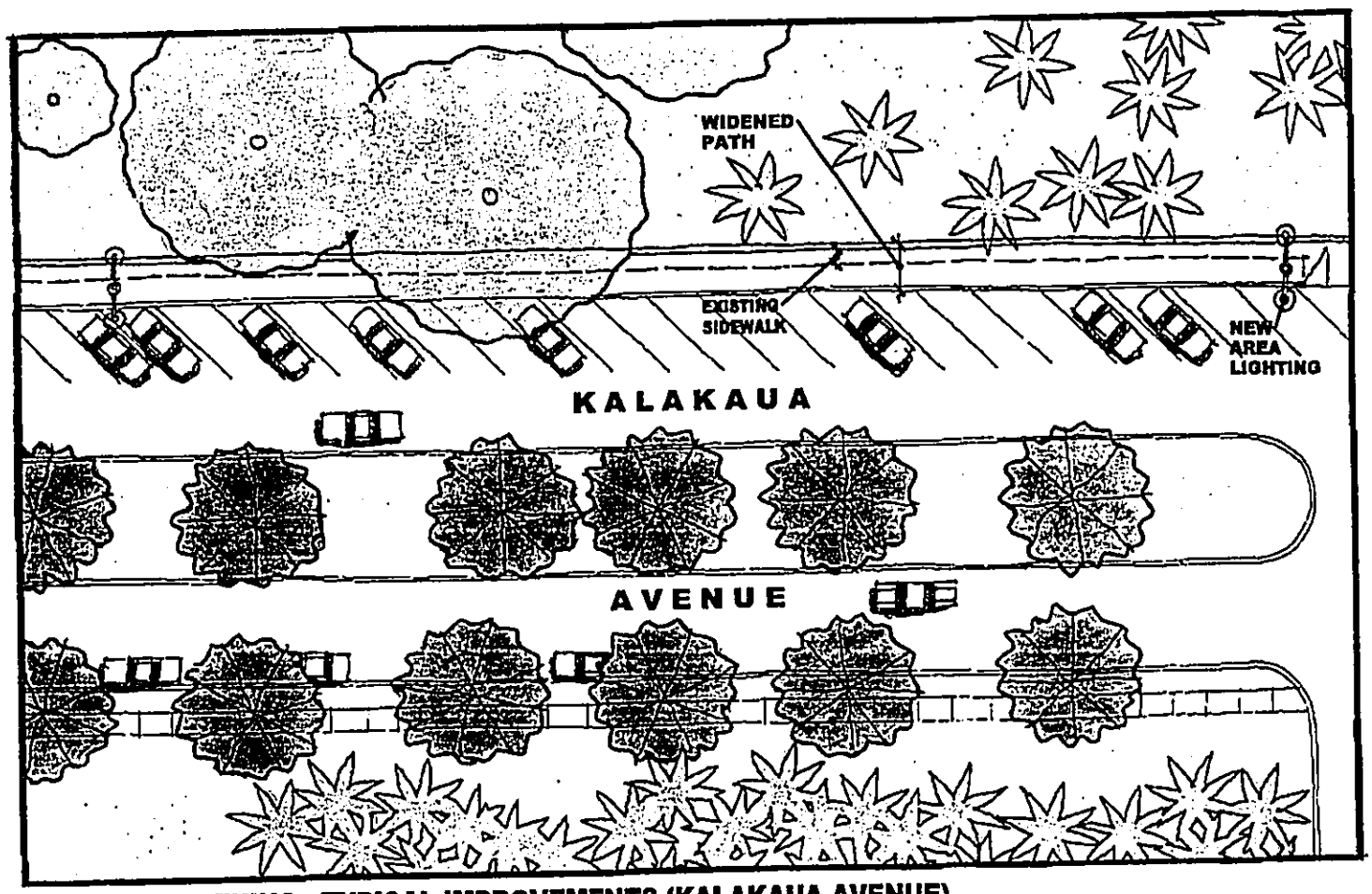
The proposed improvements should not result in significant adverse effects. The recommended improvements will not alter the historic character of the Park and the current vision for the Park.

In total, the proposed improvements should enhance the overall recreational enjoyment of the Park and promote user safety. Access and walkway improvements will link all areas of the Park and provide a venue for walkers, joggers, and cyclists. Improvements to Paki Avenue would create a safe street environment for motorists, bicyclists, pedestrians, joggers, and park users in general. Existing conditions and future conditions with sidewalk widening improvements and Paki Avenue improvements are illustrated in Figures 11 and 12.

Picnic sites and areas for informal play will be created; additional off-street parking will reduce on-street parking and congested road conditions especially along Paki Avenue; and bicycle and moped parking will be provided.

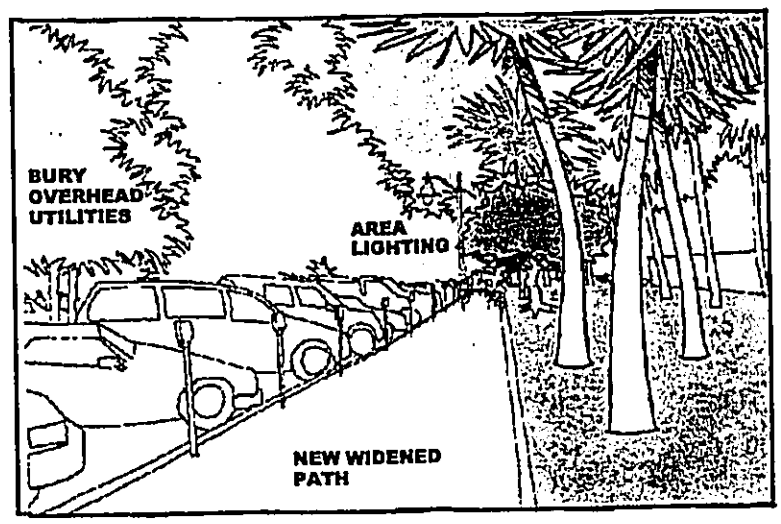
The proposed improvements will not affect known historic resources, botanical and biological resources, ocean waters and coastal ecosystems, and freshwater bodies.

The Master Plan Update does not resolve public concerns about the lack of available parking. Modifying on-street parking along Paki Avenue (providing parallel parking on the *makai* side and diagonal parking on the *mauka* side) and installing curbing to prevent illegal parking will result in the loss of some on-street parking areas. The mitigating measure is to expand the existing parking lot below Paki Hale to make up for the loss of some parking stalls along Paki Avenue.

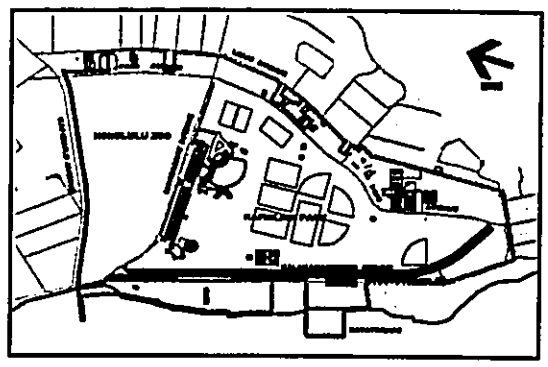


PATHWAY WIDENING - TYPICAL IMPROVEMENTS (KALAKAUA AVENUE)
APPROXIMATE SCALE - 1"=20'-0"

EXISTING CONDITIONS
NOT TO SCALE



PROPOSED IMPROVEMENTS
NOT TO SCALE



KEY MAP

GRAPHIC SCALE IN FEET

FIGURE 11

SIDEWALK - WIDENING IMPROVEMENTS

- REPLACE EXISTING WALK WITH WIDENED PATH
- RELOCATE OVERHEAD UTILITY LINES UNDERGROUND
- SUPPLEMENT EXISTING LANDSCAPE
- ADD PARK STANDARD LIGHTS

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU

SIDEWALK-WIDENING IMPROVEMENTS
FOR
KAPIOLANI REGIONAL PARK
MASTER PLAN UPDATE

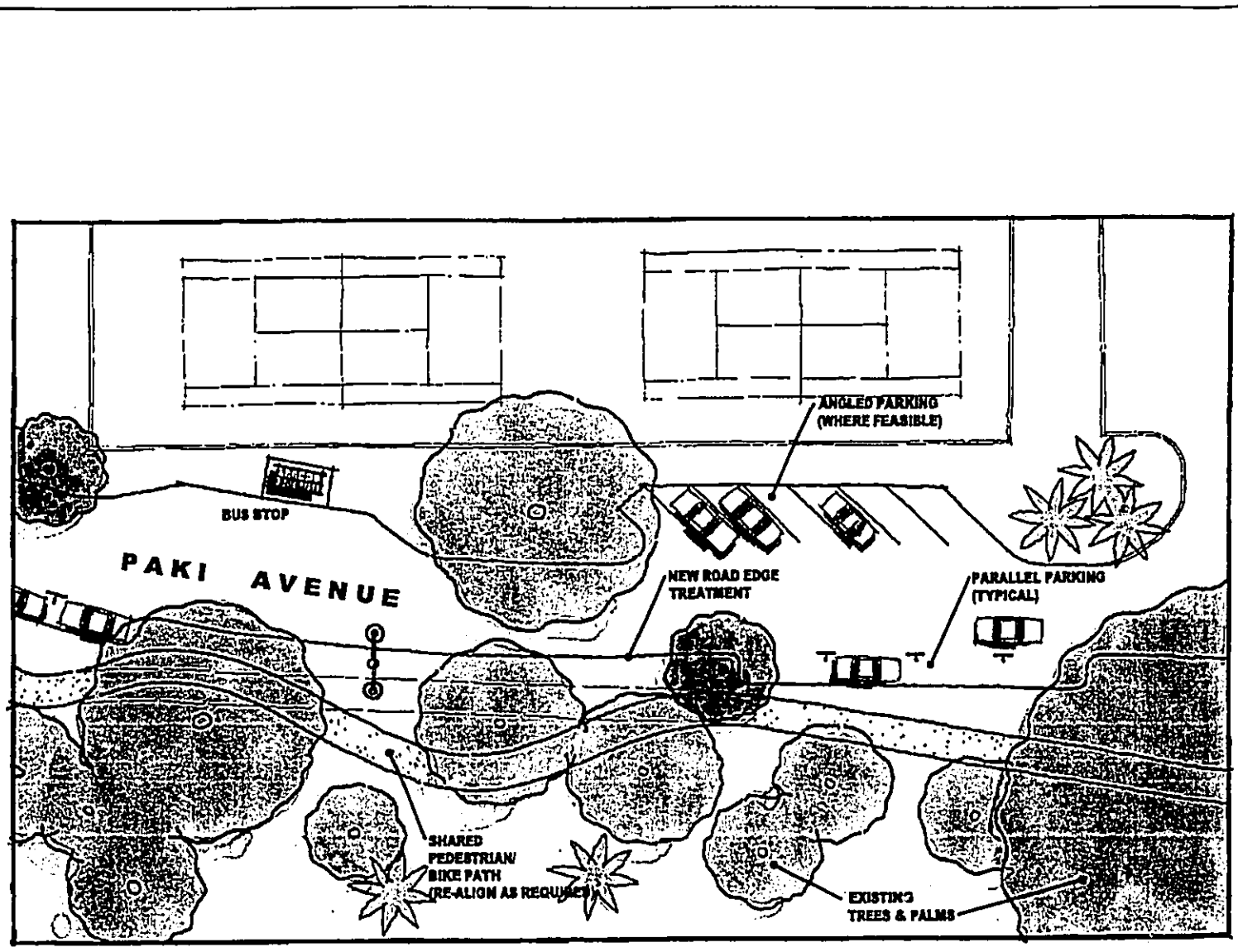
HONOLULU, OAHU, HAWAII
TAX MAP KEYS: 3-1-45

APPROVED:

Director, Department of Design and Construction — Date

CONCUR:

Director, Department of Parks and Recreation — Date

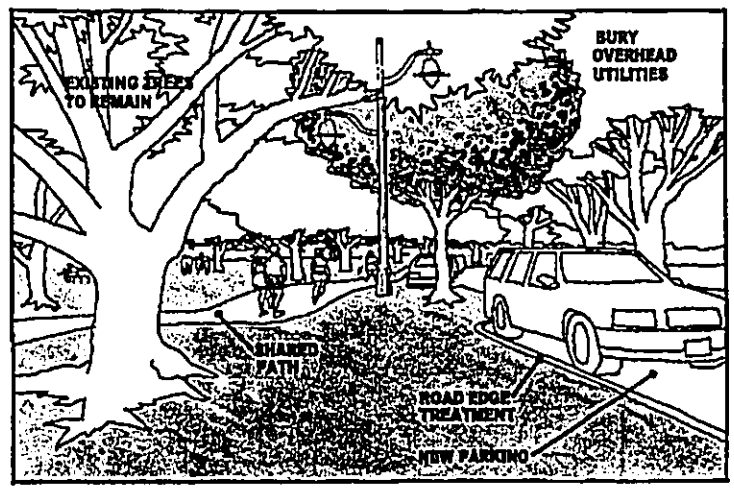


PAKI AVENUE - TYPICAL IMPROVEMENTS

APPROXIMATE SCALE - 1"=20'-0"

EXISTING CONDITIONS

NOT TO SCALE



PROPOSED IMPROVEMENTS

NOT TO SCALE

DOCUMENT CAPTURED AS RECEIVED

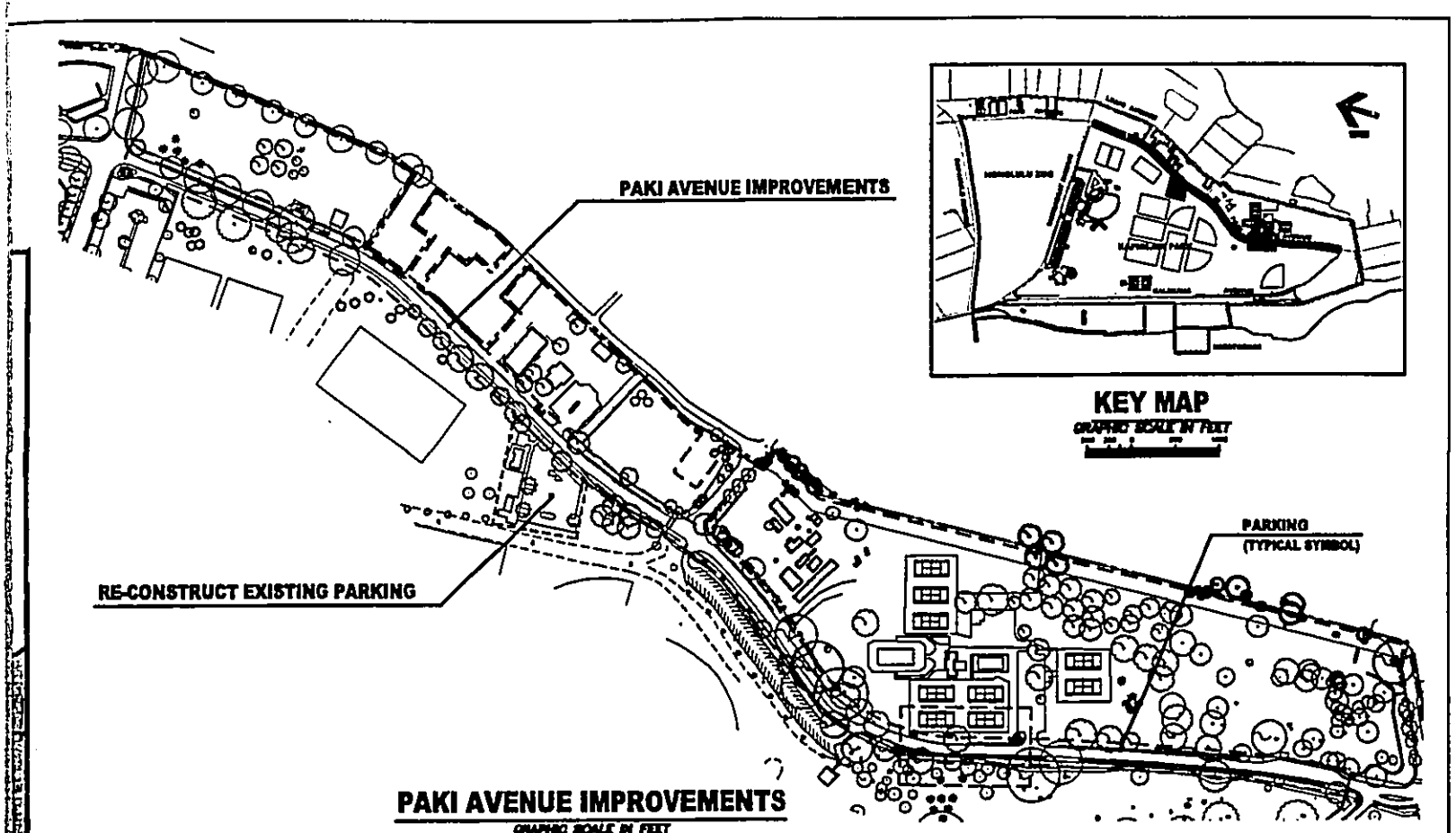


FIGURE 12

PAKI AVENUE IMPROVEMENTS

- **BURY OVERHEAD UTILITY LINES**
  (REMOVE POLES)
- **ROADWAY IMPROVEMENTS**
  (PAVEMENT AND EDGE TREATMENT)
- **PROTECT EXISTING TREES**
- **PROVIDE PARKING**
- **ADD STREET TREES**

RE-CONSTRUCT EXISTING PARKING

- **DEMOLISH EXISTING STRUCTURES**
- **DRAINAGE IMPROVEMENTS**
- **RE-CONSTRUCT PARKING AREA**
  (50-60 STALLS)
- **REPLACE EXISTING COMFORT STATION**

REVISION	DATE	DESCRIPTION	MADE BY	APPROVED

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY & COUNTY OF HONOLULU

PAKI AVENUE IMPROVEMENTS
FOR
KAPIOLANI REGIONAL PARK
MASTER PLAN UPDATE
HONOLULU, OAHU, HAWAII
TAX MAP KEY: 3-1-45

APPROVED:

Director, Department of Design and Construction — Date

CONCUR:

Director, Department of Parks and Recreation — Date

The proposed improvements will not place additional demands on water and wastewater systems because facilities requiring water and sewer service are not proposed. Energy demand should not increase because new lighting facilities are not proposed and new fixtures would replace existing fixtures in kind. The use of energy efficient street light fixtures could reduce the demand for electrical energy.

Coastal areas *makai* of Kalakaua Avenue are in a Flood Hazard area but lands *mauka* of Kalakaua Avenue are not. All of the proposed improvements are not located in a flood hazard zone and, when completed, should not contribute to an increase in flood height.

Storm runoff will be detained on-site as much as possible and allowed to percolate into the ground. The current City and County of Honolulu policy on storm water runoff is to reduce the pollution associated with storm water runoff from new development. In lieu of a drainage plan and to comply with City storm water quality policies, storm water would be directed to open space areas for percolation into the ground and evaporation or temporarily stored in on-site detention systems with controlled release to the municipal drainage system. Other methods may be implemented pursuant to approved, site-specific Best Management Practices and criteria in Part II Water Quality Criteria, City Rules Relating to Storm Drainage Standards (Department of Planning and Permitting, 2000).

The proposed improvements are public uses and structures and allowed in the P-2 zoning district. The improvements are not in violation of any provisions of City zoning controls and development standards for Kapiolani Regional Park. Construction of the new Zoo entry will exceed the 0' height limitation for the Diamond Head Special District. A Request for Waiver to the height limitation will be applied for as part of a Diamond Head Special District Permit.

Important coastal views will not be affected by the proposed improvements. Routing utilities underground will remove overhead lines from view and improve views of Diamond Head, Waikiki Beach, and Kapiolani Regional Park. The new zoo entry will obstruct views of the ocean from one or two parking aisles at the zoo parking lot.

SECTION 4 ALTERNATIVES TO THE PROPOSED ACTION

A. No Action

A No Action alternative would maintain the status quo of Kapiolani Regional Park. Environmental impacts both short and long-term and beneficial and adverse described in this Assessment would be foregone. Under this alternative, Paki Avenue will remain in substandard condition, overhead utility lines will continue to detract from the visual quality of the Park and its environs, and haphazard parking conditions will continue.

B. Circulation Alternatives

Early in the planning process, four circulation alternatives were developed. The purpose for addressing and evaluating circulation and traffic alternatives "was to determine if there were feasible traffic options that would improve and enhance the use and enjoyment of the KRP (Miyabara, 1999)". The actions comprising each of the four alternatives are presented below (bulleted items) followed by an evaluation of potential impacts.

1. Alternative "A" (Figure 13)

Proposed Actions:

- Close Monsarrat Avenue (except for bus traffic) from Kalakaua Avenue
- Close Kalakaua Avenue (eastbound) on to Monsarrat Avenue
- Re-align Kalakaua Avenue off Paki Avenue (Diamond Head Road)
- Allow two-way traffic on Monsarrat Avenue (Paki Avenue to Waikiki Shell parking lot)

Potential Impacts

The partial closure of Monsarrat Avenue will reduce northbound traffic through the Park (on Kalakaua Avenue) and provide a better interface between the Zoo and the rest of the Park. It is recognized that the current Bus route and terminal on Monsarrat Avenue are important to the public transit system of the Waikiki area and will be maintained. Allowances will need to be made to maintain access to the Waikiki Shell and Kapiolani Bandstand parking areas.

Widening Paki Avenue as a mitigating measure will have adverse effects. A road widening program will require either the use of Zoo lands or affect the existing mature Monkeypod trees, currently on the City's List of Exceptional Trees.

Southbound traffic on Kalakaua Avenue will increase. Kalakaua Avenue will continue as a thoroughfare to the Diamond Head area but will be reconfigured to accommodate primarily park-user traffic. Enhanced pedestrian features will be required to improve access across Kalakaua Avenue. Realigning Kalakaua Avenue at the south end of the Park will improve the intersection condition but will continue to present a barrier at the extreme south end of the Park.

2. Alternative "B" (Figure 14)

Proposed Actions:

- Close Monsarrat Avenue from Kalakaua Avenue to Waikiki Shell parking lot
- Close Kalakaua Avenue (eastbound) on to Monsarrat Avenue
- Close Kalakaua Avenue from Paki Avenue to Dillingham Fountain
- Partially convert Paki Avenue to one-way (southbound)
- Partially convert Leahi Avenue to one-way (northbound)
- Partially widen Paki Avenue

Potential Impacts

The partial closure of Monsarrat Avenue to both vehicle and Bus traffic allows for the complete integration of the Honolulu Zoo, Waikiki Shell, and Kapiolani Bandstand. This alternative will require the rerouting of current Bus routes and other related improvements on Monsarrat Avenue probably on to Kapahulu Avenue (which would be widened).

Converting Paki and Leahi Avenues to one-way streets reduces the widening requirements for both roads; traffic, however, is expected to increase on both roads.

Closing Monsarrat Avenue will reduce northbound traffic through the Park on Kalakaua Avenue and at the same time increase traffic in the southbound direction. Realigning Kalakaua Avenue off Paki Avenue at the south end of the Park eliminates a major barrier at that area of the Park. Widening of Kalakaua Avenue and Poni Moi Road at the south end of the Park are proposed as mitigating measures. Requirements and treatment of Kalakaua Avenue are similar to Alternative A.

3. Alternative "C" (Figure 15)

Proposed Actions:

- Close Kalakaua Avenue from Monsarrat Avenue (except for emergency vehicles)
- Close Kalakaua Avenue from Paki Avenue to Dillingham Fountain

Potential Impacts

Closing Kalakaua Avenue and converting it to primarily internal park use only will reduce through traffic and improve the interface between the beach and mauka areas of the Park. Access to the private properties along Kalakaua Avenue will be reduced but emergency access will be maintained.

Paki Avenue and Poni Moi Road will have to be widened and traffic on both roads will increase. The impacts of widening Paki Avenue are similar to the impacts discussed in Alternative A. Widening of Kapahulu Avenue is proposed as a mitigating measure.

Realigning Kalakaua Avenue at the south end will allow for integration of that portion of the Park.

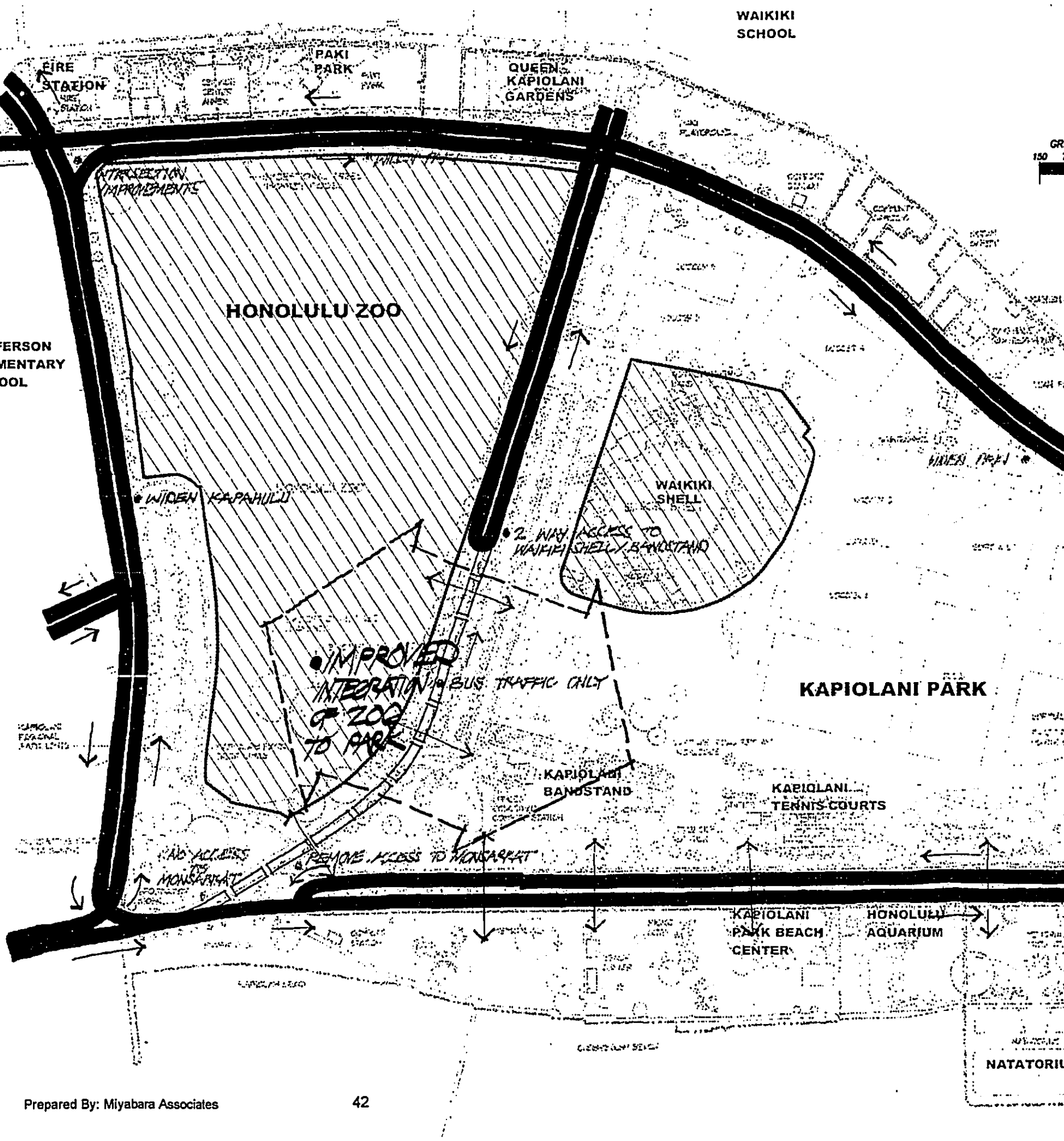

WAIKIKI SCHOOL
FIRE STATION
PAKI PARK
QUEEN KAPIOLANI GARDENS
INTERSECTION IMPROVEMENTS
HONOLULU ZOO
JEFFERSON ELEMENTARY SCHOOL
WIDEN KAPAHULU
WAIKIKI SHELL
2 WAY ACCESS TO WAIKIKI SHELL / BANDSTAND
IMPROVED INTEGRATION OF ZOO TO PARK
BUS TRAFFIC ONLY
KAPIOLANI PARK
KAPIOLANI BANDSTAND
KAPIOLANI TENNIS COURTS
NO ACCESS TO MONSARRAT
REMOVE ACCESS TO MONSARRAT
KAPIOLANI PARK BEACH CENTER
HONOLULU AQUARIUM
NATATORIU

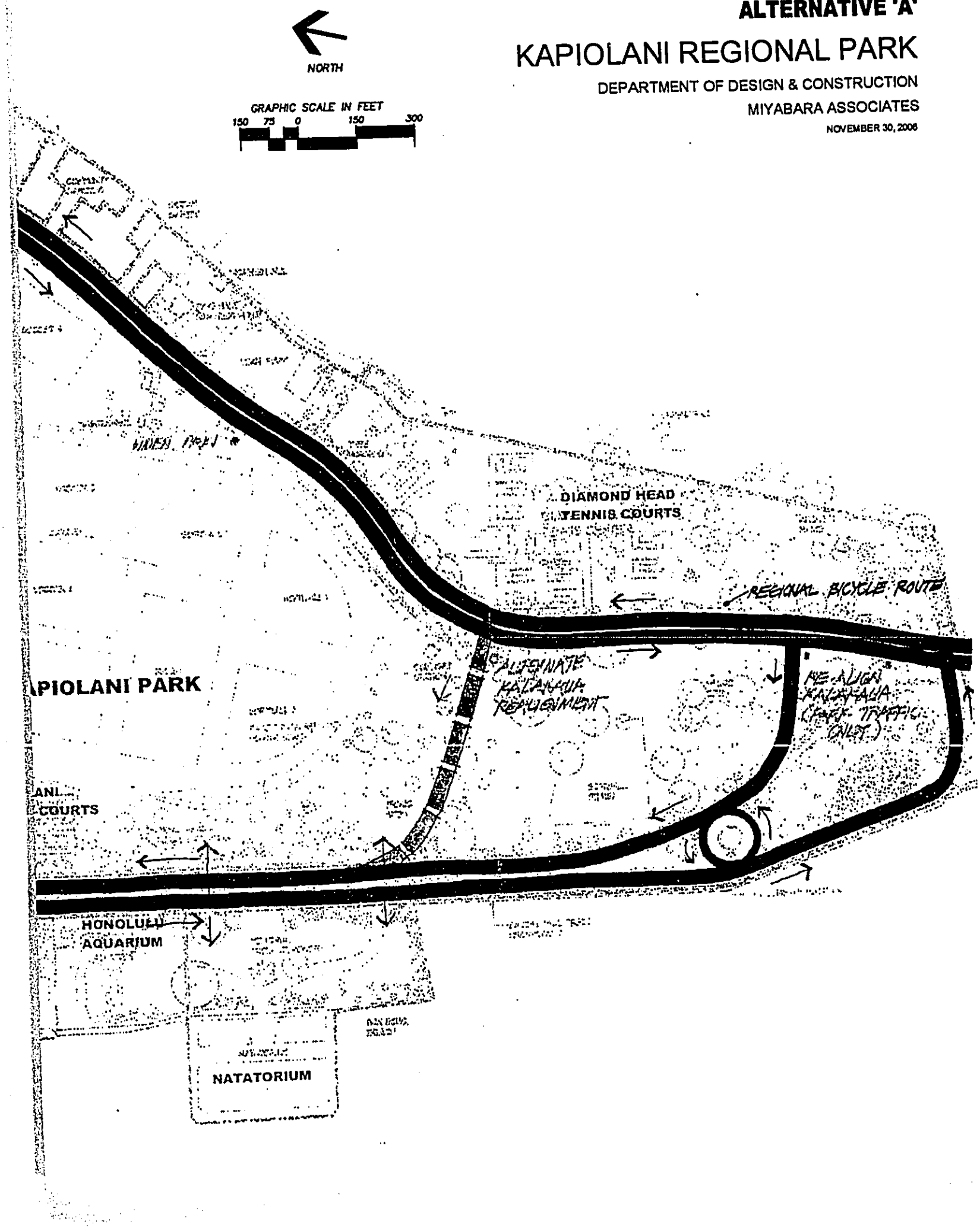
FIGURE 13
ALTERNATIVE 'A'

KAPIOLANI REGIONAL PARK

DEPARTMENT OF DESIGN & CONSTRUCTION

MIYABARA ASSOCIATES

NOVEMBER 30, 2006



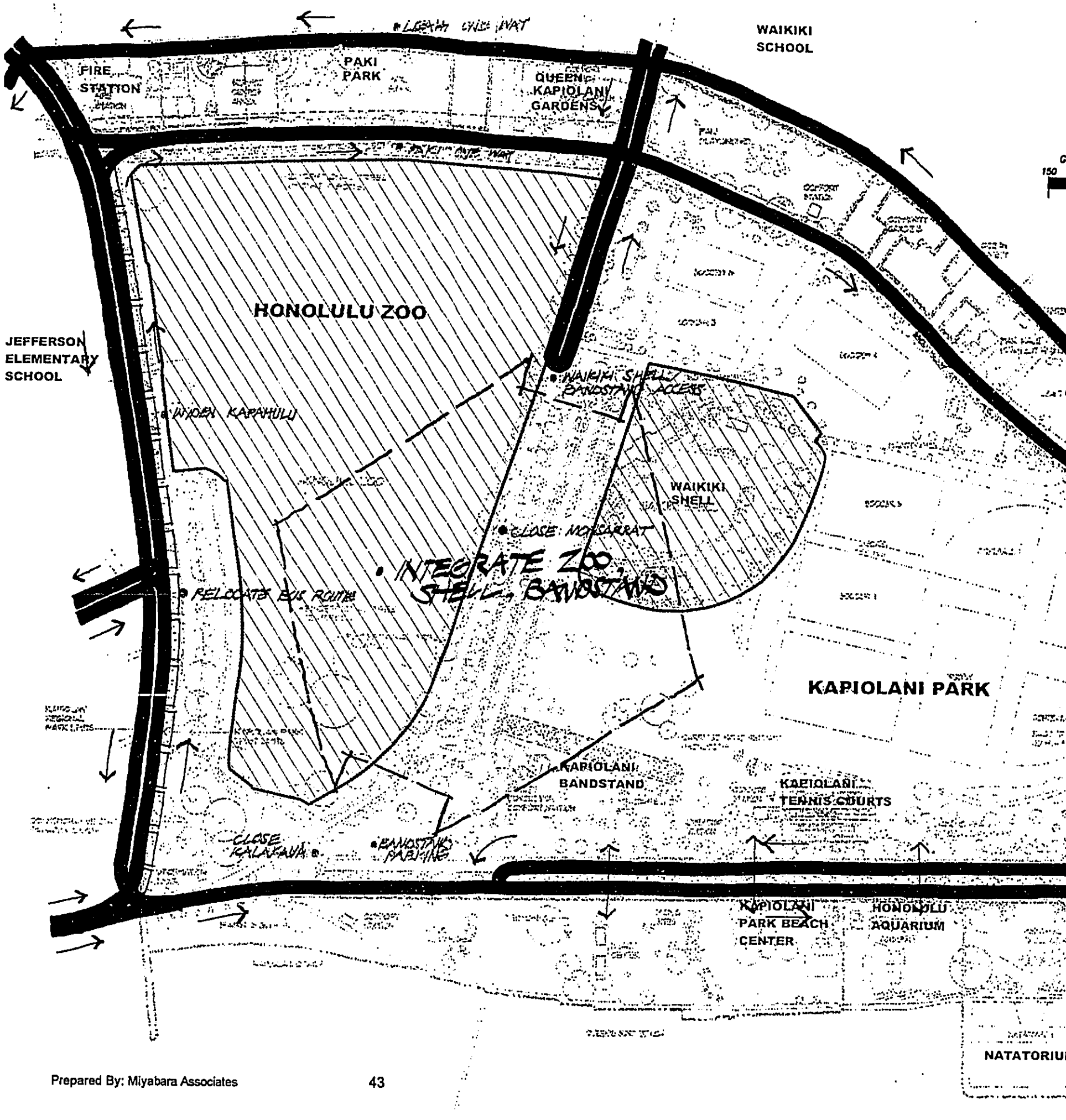

FIRE STATION
PAKI PARK
QUEEN KAPIOLANI GARDENS
WAIKIKI SCHOOL
HONOLULU ZOO
JEFFERSON ELEMENTARY SCHOOL
WAIKIKI SHELL
KAPIOLANI PARK
KAPIOLANI BANDSTAND
KAPIOLANI TENNIS COURTS
KAPIOLANI PARK BEACH CENTER
HONOLULU AQUARIUM
CLOSE MONSARRAT
INTEGRATE ZOO, SHELL, BANDSTAND
RELOCATE BUS ROUTE
CLOSE KALAKAUA
BANDSTAND PARKING

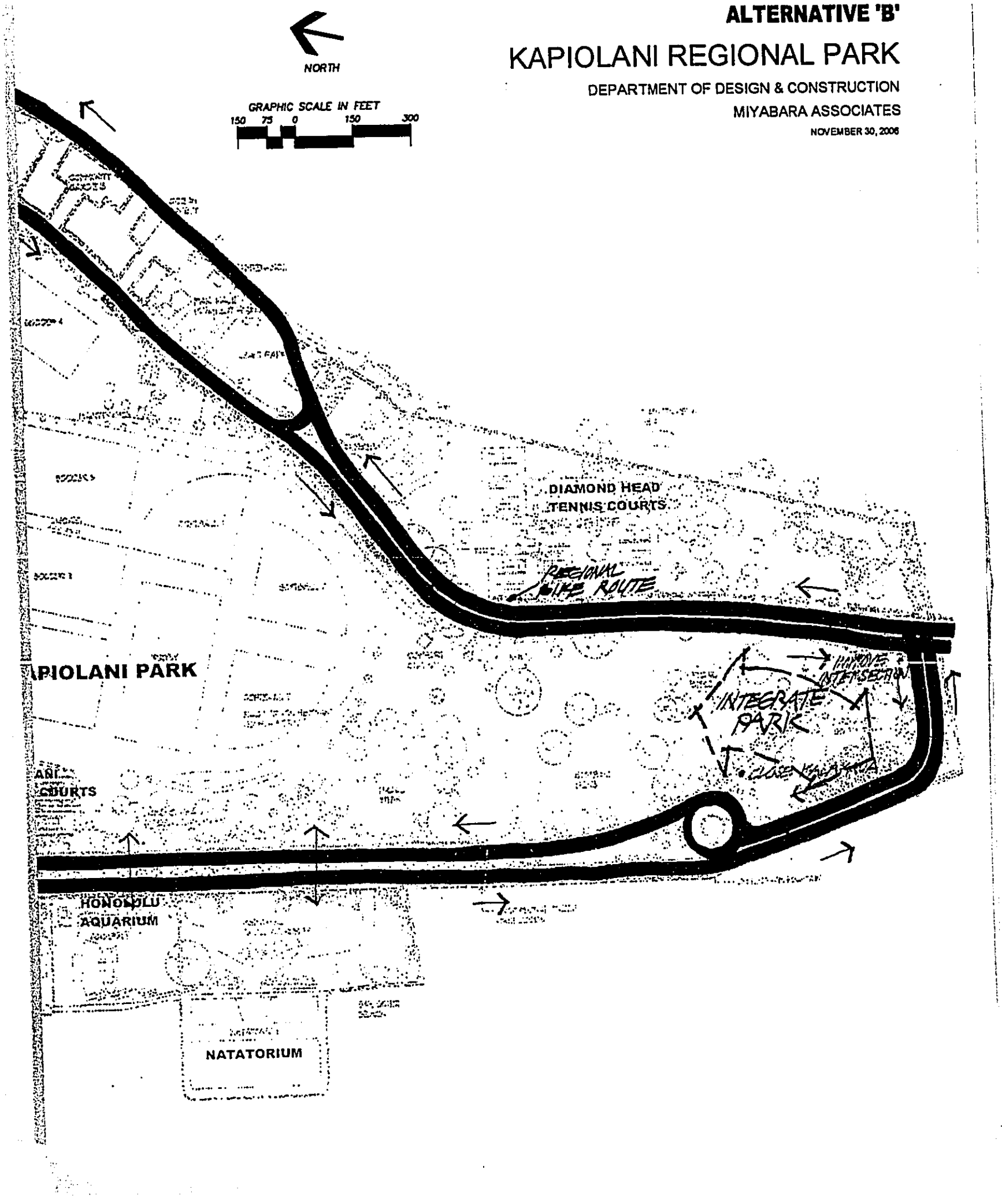
FIGURE 14
ALTERNATIVE 'B'

KAPIOLANI REGIONAL PARK

DEPARTMENT OF DESIGN & CONSTRUCTION

MIYABARA ASSOCIATES

NOVEMBER 30, 2006



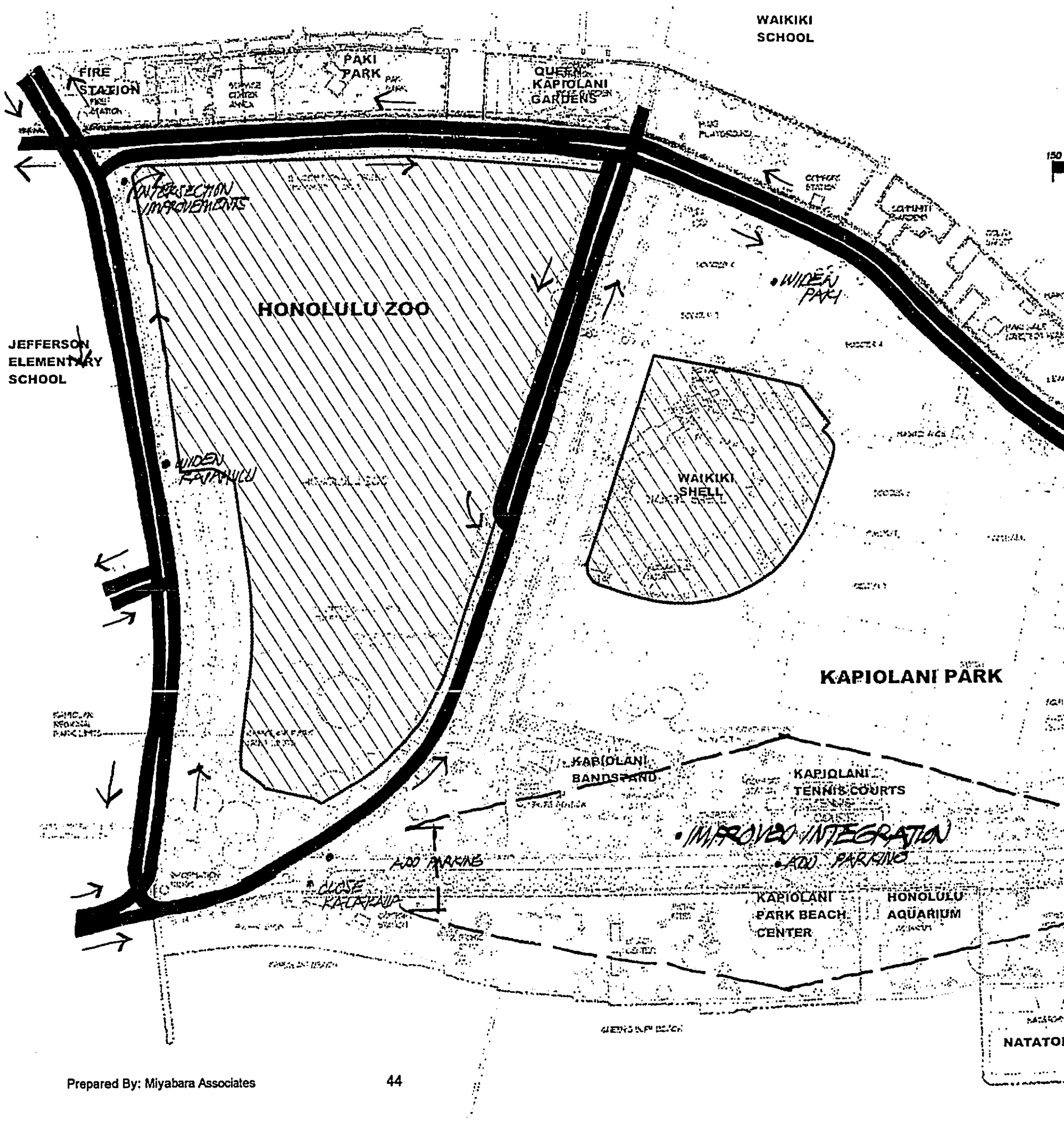

WAIKIKI SCHOOL
FIRE STATION
PAKI PARK
QUEEN KAPIOLANI GARDENS
INTERSECTION IMPROVEMENTS
HONOLULU ZOO
WIDEN PAKI
JEFFERSON ELEMENTARY SCHOOL
WIDEN KAPAHULU
WAIKIKI SHELL
KAPIOLANI PARK
KAPIOLANI BANDSTAND
KAPIOLANI TENNIS COURTS
IMPROVED INTEGRATION
ADD PARKING
ADD PARKING
CLOSE KALAKAUA
KAPIOLANI PARK BEACH CENTER
HONOLULU AQUARIUM

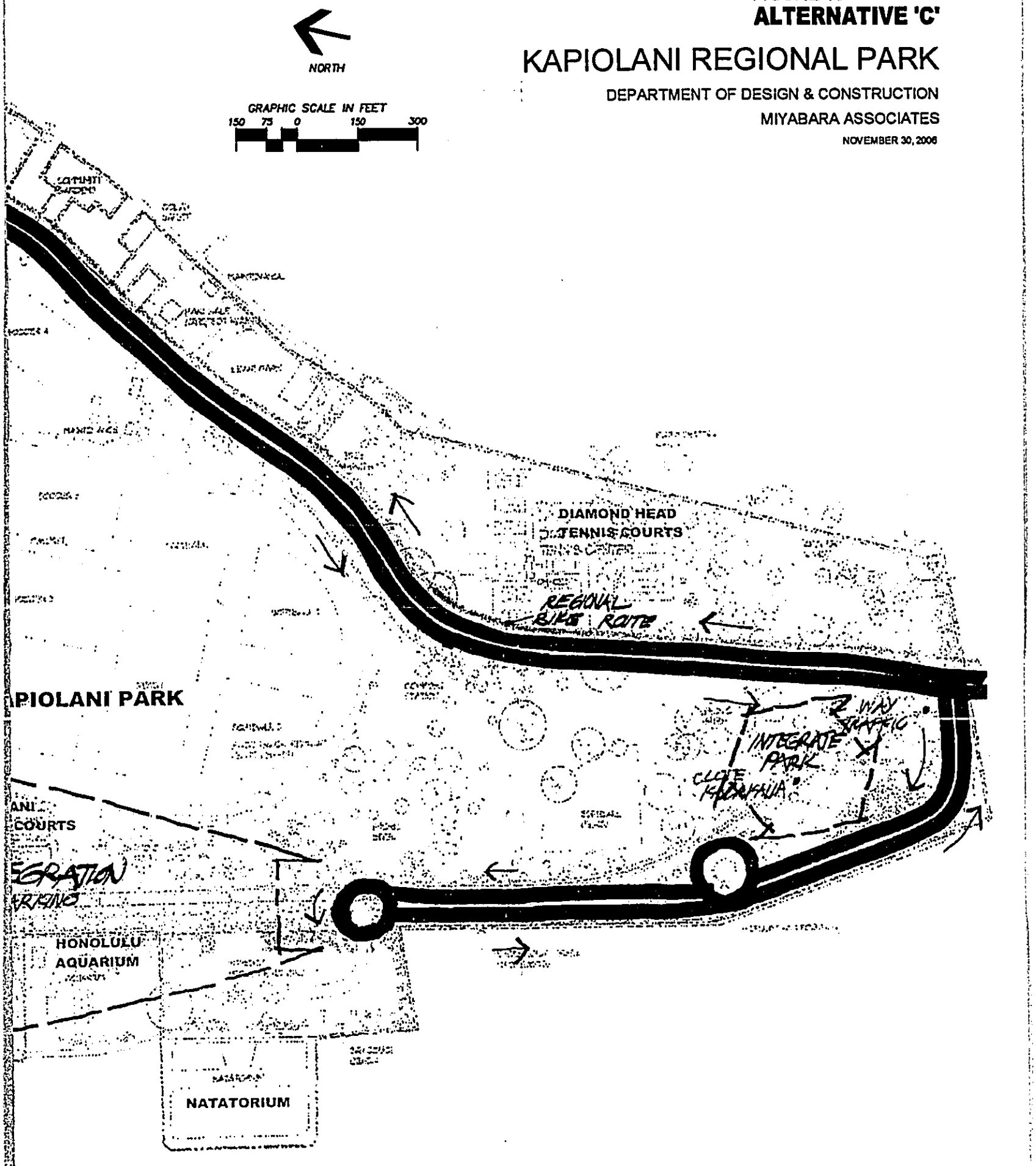
FIGURE 15
ALTERNATIVE 'C'

KAPIOLANI REGIONAL PARK

DEPARTMENT OF DESIGN & CONSTRUCTION

MIYABARA ASSOCIATES

NOVEMBER 30, 2006



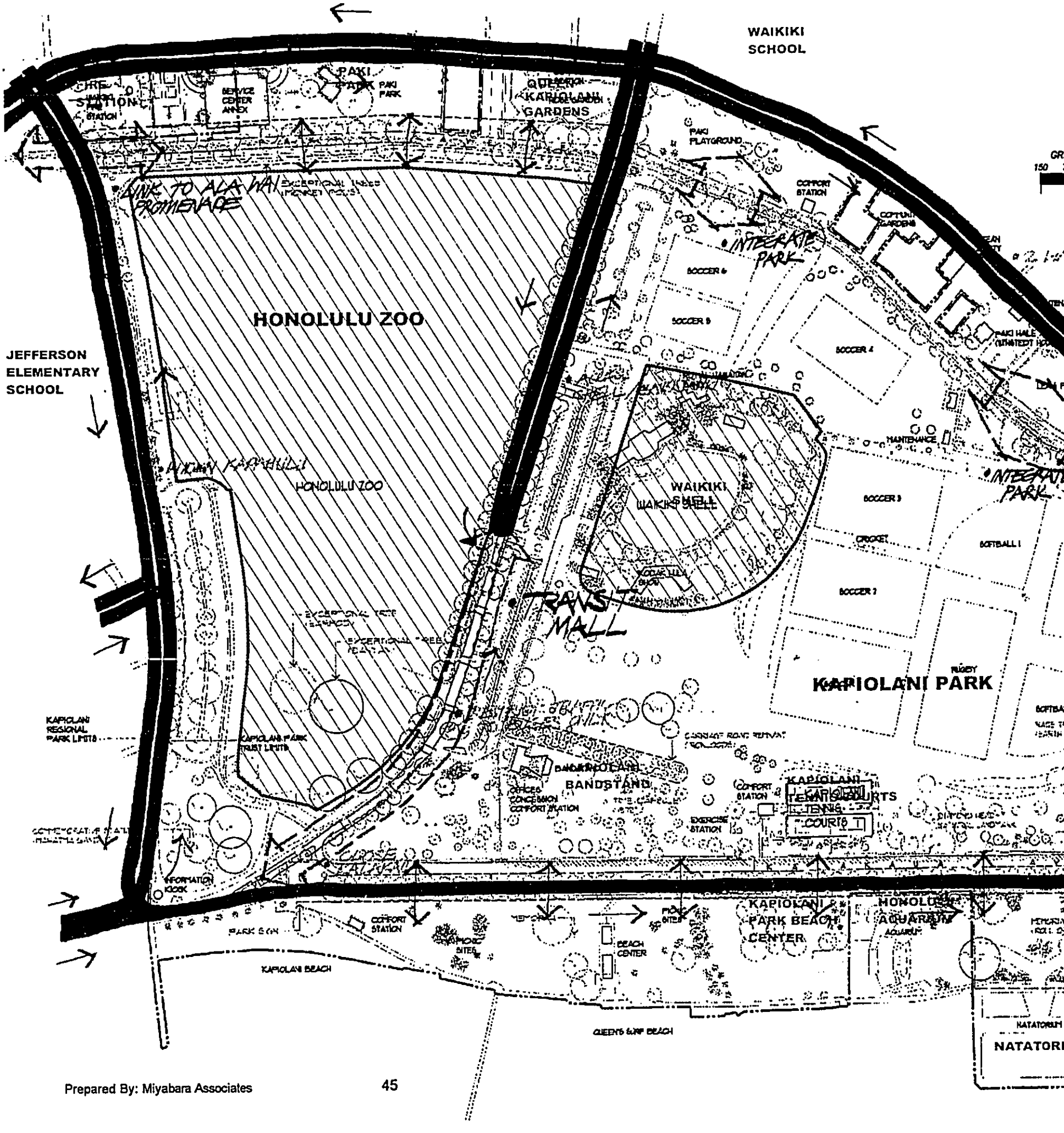

WAIKIKI SCHOOL
JEFFERSON ELEMENTARY SCHOOL
HONOLULU ZOO
KAPIOLANI PARK
WAIKIKI SHELL
KAPIOLANI REGIONAL PARK LIMITS
KAPIOLANI PARK TRUST LIMITS
BANDSTAND
KAPIOLANI PARK BEACH CENTER
HONOLULU AQUARIUM
KAPIOLANI BEACH
QUEEN'S SURF BEACH
INTEGRATED PARK
SOCCER 6
SOCCER 5
SOCCER 4
SOCCER 3
SOCCER 2
CRICKET
SOFTBALL I
KAPIOLANI TENNIS COURTS
COURTS
PAKI PLAYGROUND
PAKI PARK
SERVICE CENTER ANNEX
QUEEN KAPIOLANI GARDENS
COMFORT STATION
EXERCISE STATION
PARK SIGN
PICNIC SITES
BEACH CENTER
MAINTENANCE
TRANS MALL
LINK TO ALA WAI PROMENADE
EXCEPTIONAL TREES

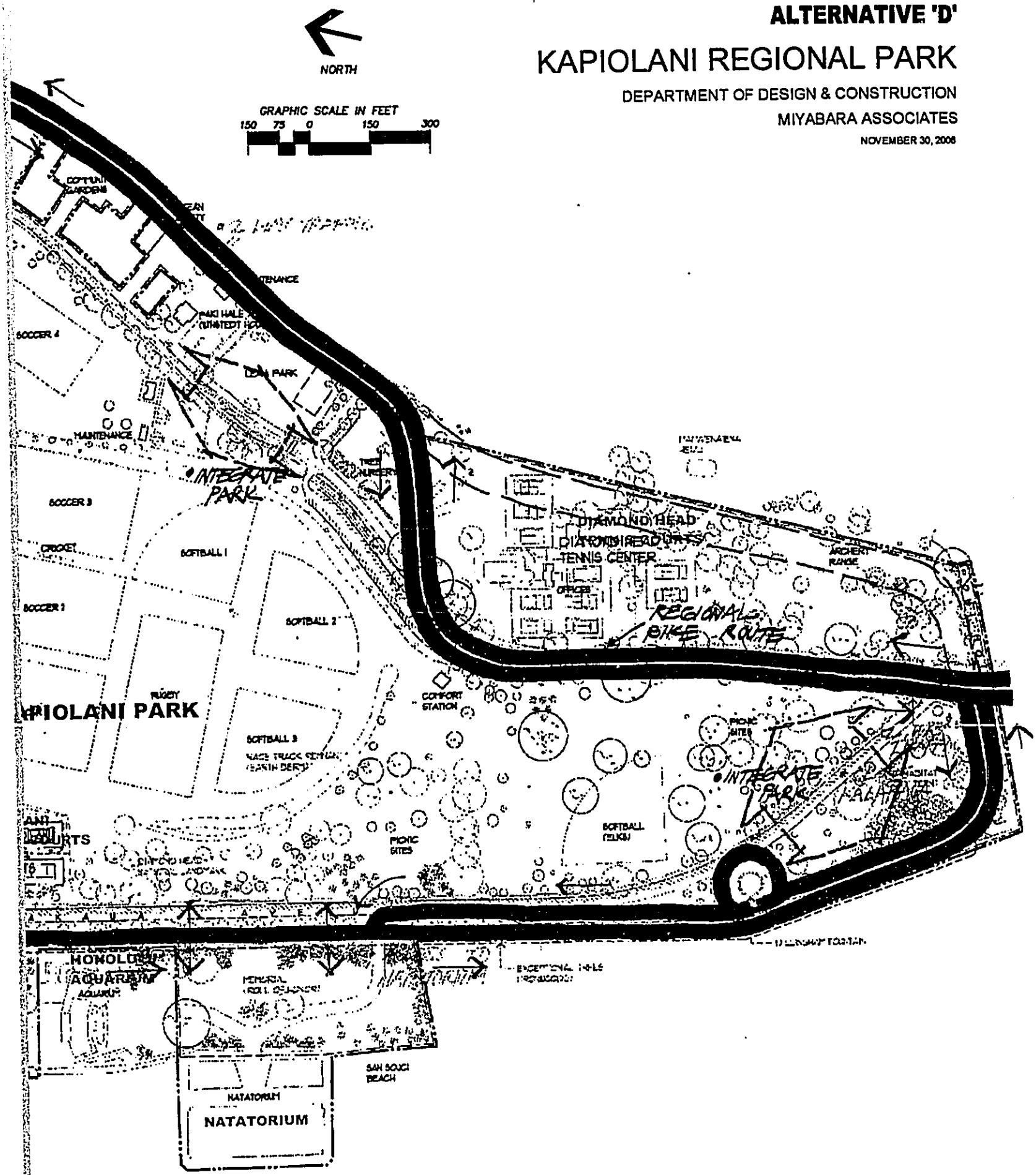
FIGURE 16
ALTERNATIVE 'D'

KAPIOLANI REGIONAL PARK

DEPARTMENT OF DESIGN & CONSTRUCTION

MIYABARA ASSOCIATES

NOVEMBER 30, 2006



SECTION 5 UNRESOLVED ISSUES

The proposed construction of a new entry building at the Honolulu Zoo raised several issues. Some critics argued that the existing entry building is a historic structure and should not be demolished. The Department of Design and Construction argued that the structure has not attained the age criterion (50+ years) to be considered a historic structure and that the building is termite-eaten and water damaged.

The Department of Design and Construction has since decided to retain the existing entry building as part of the Honolulu Zoo. Approximately one-half of the building will be converted into a visitor center and the other half into a comfort station (See Zoo Entry Figure). A plan for the adaptive re-use of the building will be submitted to the Department of Land and Natural Resources for review and concurrence.

A second issue concerns commercial activities conducted within the Park. Critics argue that building a larger gift shop in the new entry building will expand commerce within the Zoo and hence within the Park. To be determined is whether an existing commercial activity inside the zoo can be enlarged (in terms of square feet) and whether said enlargement is a violation of the Kapiolani Park Trust. A second question is whether commercial activities are prohibited on trust lands and does the prohibition extend to Honolulu Zoo. Historically, some type of commercial activity has always been permitted in the Park (Weyeneth, 1991).

SECTION 6 PERMITS AND APPROVALS

Permits and approvals that may be required to implement the various improvements proposed by the Master Plan are listed below. In the absence of specific design plans, the listing should be considered a general overview of permitting requirements. Additional permits and approvals may be required depending on design and construction plans for the various improvements.

City and County of Honolulu

Department of Planning and Permitting

*Special Management Area Permit
Special District Permit (Diamond Head Special District)
Grubbing, Grading, and Stockpiling Permit
Building Permit for Building, Electrical, Plumbing Sidewalk/Driveway and Demolition Work
Permit to Excavate Public Right-of-Way (Trenching)
Waiver (Diamond Head Special District Height Requirement)

Department of Transportation Services

Street Usage Permit

State of Hawaii

Department of Health

Variance from Pollution Controls (Noise Permit)

Department of Land and Natural Resources

Historic Site Review

*Note: A Special Management Area Permit was approved for the Kapiolani Park Master Design Plan in 1983. During the planning for any improvement within the Park, consultation should be initiated with the Department of Planning and Permitting to ascertain the applicability of the SMA Permit approved in 1983 to the improvement being proposed.

SECTION 7

AGENCIES AND ORGANIZATIONS TO BE CONSULTED

City and County of Honolulu

Board of Water Supply
Department of Enterprise Services
Department of Environmental Services
Department of Facility Maintenance
Department of Parks and Recreation
Department of Planning and Permitting
Department of Transportation Services
Fire Department
Police Department

State of Hawaii

Department of Health
Department of Land and Natural Resources
State Historic Preservation Division
Office of Hawaiian Affairs

Agencies and Organizations

Hawaiian Electric Company, Inc.
Hawaiian Telcom
Oceanic Cable
Honolulu City Council
Kapiolani Park Advisory Council
Kapiolani Park Preservation Society
The Outdoor Circle
Hawaii Hotel Association
Waikiki Improvement Association
Waikiki Business Improvement District Association
Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board No. 5
Waikiki Neighborhood Board No. 9

Pre-Assessment Consultation

Kapiolani Park Preservation Society
Department of Parks and Recreation
Department of Planning and Permitting
Diamond Head/Kapahulu/St. Louis Heights Neighborhood Board (Presentation)

SECTION 8 DETERMINATION OF SIGNIFICANCE

Chapter 200 (Environmental Impact Statement Rules) of Title 11, Administrative Rules of the State Department of Health, establishes criteria for determining whether an action may have significant effects on the environment (§11-200-12). The relationship of the proposed project to these criteria is discussed below.

1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

   Natural or cultural resources will not be lost or destroyed as a result of the proposed improvements.

   Portions of Kapiolani Regional Park are registered historic features thus the proposed improvements will be subject to review by the State Historic Preservation Division.

2) Curtails the range of beneficial uses of the environment;

   Public use and enjoyment of Kapiolani Regional Park will be expanded rather than curtailed.

3) Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;

   The proposed improvements do not conflict with long-term environmental policies, goals, and guidelines of the State of Hawaii.

4) Substantially affects the economic or social welfare of the community or State;

   Improvements proposed in the Kapiolani Regional Park Master Plan Update will not substantially affect the economic or social welfare of the community or State.

5) Substantially affects public health;

   Public health will not be adversely affected.

6) Involves substantial secondary impacts, such as population changes or effects on public facilities;

   Substantial secondary impacts are not anticipated beyond the proposed displacement of residents within the green belt bordered by Paki and Leahi Avenues.

7) Involves a substantial degradation of environmental quality;

   Environmental quality of the Park and the surrounding Waikiki, Diamond Head, and Kapahulu neighborhoods will not be degraded.

8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;

The proposed improvements will neither adversely affect existing environmental characteristics nor involve a commitment for larger actions. The scope of the individual improvements is intended to upgrade existing recreation facilities and areas, enhance the aesthetics of the Park and the neighborhood, improve circulation and parking, and comply with current regulatory requirements. The intended beneficiaries are clearly those that recreate at the Park and residents of the surrounding neighborhood.

9) Substantially affects a rare, threatened or endangered species, or its habitat;

Rare, threatened or endangered flora or fauna or habitat have not been recorded in Kapiolani Regional Park. The Park, however, contains Exceptional Trees that are protected by City ordinance. The location of these trees is well documented and will not be affected by the proposed improvements.

10) Detrimentally affects air or water quality or ambient noise levels; or

Ambient air quality will be affected by fugitive dust and combustion emissions generated during construction, but can be controlled by measures stipulated in this Assessment. Construction noise will be most audible during site preparation work and will diminish during the varying construction stages that follow. Noise will be temporary at any one location and its duration will vary by the length of time is takes to construct the respective improvement.

All construction activities will comply with air quality and noise pollution regulations of the State Department of Health.

Erosion control measures will be prescribed in grading plans and best management practices prepared for the project.

In lieu of a drainage master plan and to comply with City storm water quality policies, storm water would be directed to open space low elevation areas and allowed to percolate into the ground or to evaporate. Other methods may be implemented pursuant to approved, site-specific Best Management Practices and criteria in Part II Water Quality Criteria, City Rules Relating to Storm Drainage Standards (Department of Planning and Permitting, 2000).

11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters;

Park lands *mauka* of Kalakaua Avenue are not located in an environmentally sensitive area. Park lands *makai* of Kalakaua Avenue are located in a flood zone.

Improvements are not proposed on land in an environmentally sensitive area.

12) Substantially affects scenic vistas and view planes identified in county or state plans or studies, or;

The proposed improvements will not affect scenic vistas associated with the Park. Placing overhead utility lines underground will greatly improve the visual quality of the roads and exterior edges of the Park.

13) Requires substantial energy consumption.

Energy demand should not increase substantially because new lighting facilities are not proposed and new fixtures would replace existing fixtures in kind. The use of energy efficient street light fixtures could reduce the demand for electrical energy.

REFERENCES

Belt Collins Hawaii. May 2000. *Environmental Assessment for Honolulu Zoo Master Plan Waikiki, Oahu, Hawaii. TMK: 3-1-43:1-Portion of Kapiolani Regional Park.* Prepared for City and County of Honolulu, Department of Design and Construction.

Brong, Mary. 1993. *Updated Honolulu Zoo Master Plan "A Vision for the Future."*

Chu, Michael and Robert B. Jones. 1987. *Coastal View Study.* Prepared for Department of Land Utilization, City and County of Honolulu.

City and County of Honolulu, January 1983. *Waikiki 2000 Kapiolani Park Master Design Plan.* Mayor Eileen R. Anderson, City and County of Honolulu.

City and County of Honolulu. January 1983. *Waikiki 2000 Kapiolani Park Management Policy.* Mayor Eileen R. Anderson, City and County of Honolulu.

City and County of Honolulu. *Revised Ordinances of Honolulu.* Chapter 41, Article 13. Protective Regulations for Exceptional Trees.

Department of Parks and Recreation. January 1983. *Kapiolani Park Master Design Plan.* Advance Planning, Facilities Division, Department of Parks and Recreation, City and County of Honolulu.

Department of Parks and Recreation, City and County of Honolulu. April 1997. *Index of O'ahu Parks and Facilities.*

Department of Planning and Permitting. May 1999. *Land Use Ordinance.* Ordinance No. 99-12. City and County of Honolulu.

Department of Planning and Permitting, City and County of Honolulu. October 2002. *General Plan Objectives and Policies.* As amended by Resolution 02-205, CD1.

Department of Planning and Permitting, City and County of Honolulu. June 2004. *Primary Urban Center Development Plan.*

Department of Transportation Services. April 1999. Honolulu Bicycle Master Plan. Prepared by Helber Hastert & Fee, Planners, Bicycle Federation of America, Engineering Concepts, Inc., and David Cheever Marketing.

Federal Emergency Management Agency. November 2000. *Flood Insurance Rate Map.* Community Panel No. 15003C0370E.

Mink, John F. and L. Stephen Lau. February 1990 (Revised). *Aquifer Identification and Classification for O'ahu, Groundwater Protection Strategy for Hawai'i.* Technical Report No. 179. Water Resources Research Center, University of Hawaii at Manoa. Honolulu, Hawaii.

Miyabara Associates. 2006. *Master Plan for Kapiolani Regional Park Master Plan Update.* Prepared for Department of Design and Construction, City and County of Honolulu.

Park, Gerald Urban Planner. April 2003. September 2005. June 2006. *Site Investigation.*

Urban Works. No Date. *Honolulu Zoo Entry Site Plan.*

U.S. Department of Agriculture, Soil Conservation Service. August 1972. *Soil Survey Report for Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* In Cooperation with the University of Hawaii Agricultural Experiment Station.

Weyeneth, Robert R. Ph.D. March 1991. *Kapi'olani Park: A Victorian Landscape of Leisure.* Prepared for Department of Parks and Recreation, City and County of Honolulu.